THE MEDICAL FORTNIGHTLY

Vol. XXIV ST. LOUIS, JUNE 11, 1906. No. 11

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LEADING ARTICLES

ACUTE MASTOID ABSCESS.

FRANK ALLPORT, M. D.

CHICAGO, ILL.

ACUTE mastoid abscesses proceed from acute or chronic middle ear infections. Such cases, especially in country practice, usually fall under the care of the general practitioner, and it is of great importance that an early diagnosis shall be made, as it frequently happens that the infectious pathological lesions extend in the cerebrum, cerebellum, or sinus which, of course, quickly emphasizes the gravity of the situation and minimizes optimistic prognostications. If the surgeon could safely delay diagnosis until pathological changes have so far advanced as to unmistakably clarify the symptomatology, no especial anxiety need be felt, as mature cases of mastoid abscess are accompanied by such well-defined indications of intra-osseous infection as to render a diagnosis comparatively easy —even by a medical tyro. When, however, distinct subjective and objective evidences of severe and well-advanced pathological changes are manifest, great fear may well be entertained that infectious processes have already extended into the intracranial contents, and the situation of the patient may well be regarded as precarious. It is, therefore, of great importance that this disease shall be detected in its early stages before profound pathological changes have occurred, and before operative work of exceedingly grave character shall become necessary in order to perpetuate the existence of the patient. The diagnosis of acute mastoid abscess is usually not difficult, although perplexing cases may sometimes be seen. While some antral pus may exist in all prolonged middle ear infections, as expressed by some writers, sufficient pus must exist as a rule to produce some pressure and absorption before an actual apparent abscess may be said to exist, and before a recognizable symptomatology will be present. Such symptoms as tenderness, redness, swelling, temperature and pain may occur with comparatively slight pus deposits, and these are the symptoms that should be watched for, as they point the way to the operative table during a period of comparative safety. When, however, intense mastoid and neighboring redness, tenderness, swelling, pain and edema, auricular displacement, high temperature and pulse, chills, increased leucocyte and polymorphonuclear count indicate a mastoid cavity surcharged with pus and granulations already, perhaps, forcing an entrance into the intracranial cavity, then indeed is a diagnosis easy, if late, and then unquestionably is no time to be lost before a free and thorough mastoid operation is performed.

The swelling in most mastoid abscesses has a tendency toward an upward direction the neighborhood of the surface of the lower portion of the squamous section of the temporal bone notwithstanding the inherent principles of gravitation. This tendency is natural on account of the closer relationship of the soft tissues to the roughened and serrated surface of the true mastoid cortex and the close contact of the soft tissues to the smooth exterior of the squamous portion of the temporal bone. This is particularly true of young children, where the antrum is located higher than in the adult and where the unossified masto-squamosal suture allows a ready exit of the middle ear pus to the exterior of the bone. For these reasons it will frequently be noticed, especially in children, that the direction of the auricular displacement is not only forward but downward to correspond with the usual pus location, as just described.

*Read before the Twelfth District (Indiana) Medical Society at Fort Wayne, Ind., March 13, 1906.

Notwithstanding the principles just enunciated, however, it must not be imagined that purulent deposits may not burst their osseous fetters in other directions, for fistulae may as a matter of fact, appear in almost any portion of the mastoid process. Such necrotic openings may occur over the antrum, into the external auditory meatus, through the digastric groove, or in short through almost any portion of the mastoid cortex, to say nothing of ruptures through the inner table of the bone into the brain cavity. Fistulae through the digastric groove of the temporal bone underneath the mastoid tip and called by courtesy Bezold's mastoiditis, is both an interesting and perplexing form of the disease, and is caused by gravitation of pus to the large tip mastoid cells and the bursting of the thin bone through the digastric fossa. Under these circumstances pus escapes into the cervical tissues, infection in this treacherous territory takes place and abscess after abscess occurs by easy infectious dissection from one portion of the neck to the other, sometimes even extending to below the clavicle, or back as far as the vertebrae. While distinct objective and subjective febrile and inflammatory manifestations are usually present while pus is confined within osseous barriers, it sometimes happens that as soon as cortex fistulae occur and pus becomes thereby liberated into the soft tissues, and the pressure is removed there will occur a temporary lull in dangerous manifestations, which will, of course, be regarded with much suspicion by the experienced observer, but which is sometimes deplorably misunderstood by the unwary until large pus accumulations and pus absorption produce symptoms that are unmistakable in their gravity.

Unless Bezold's mastoiditis exists, a condition which as a rule is not difficult to diagnose, pain and tenderness at the mastoid tip need not generally be regarded as very important (although it should never be disregarded) as this is a frequent symptom in simple acute purulent otorrhea and other noncomplicated inflammatory conditions of the tympanum and antrum, but pain and tenderness over the antrum or at the inner upper portion of the bony meatus should always be regarded with grave suspicion, and when these symptoms are accompanied with redness and swelling at these areas, suspicion should give place to immediate operative advice.

Although the warning may seem superfluous, those who observe many mastoid patients know that it is not impossible to mistake a mastoid abscess for a severe boil of the meatus, which if located on the posterior or upper meatal wall and presenting such symptoms as pain, swelling, sensitiveness, edema, redness, auricular displacement, discharge, and general febrile manifestations, may cause even an experienced observer to hesitate somewhat before a positive diagnosis is made. A careful examination of the parts, however, under full illumination will disclose the meatus and not the mastoid to be the storm center of trouble, not forgetting the fact, however, that a virulent middle ear discharge accompanied perhaps with mastoid involvement, may produce a meatal furuncle, and complexity of conditions not easy to unravel. The character of the discharge should always be examined from suppurating ears, as it often plays an important part in advice given to patients relative to the necessity for an operation, for, when the presence, especially of the streptococcus, in the discharge is established, the probability of an operation is at once very much magnified.

The mastoid patient can frequently be diagnosed immediately he enters the surgeon's consulting room by his pained and anxious countenance and the care with which he carries his head stiffly to one side to avoid pulling and straining on the soft tissues of the head and neck. The pain may be slight in extent or extremely severe, involving not only the mastoid area, but other portions of the head and neck as well, and requiring heavy and frequent potions of anodynes to relieve. The bowels are usually constipated but may be the reverse, and the appetite is poor or entirely absent. The occurrence of chills may usually be expected in mastoid abscesses ranging all the way from distinct chilly sensations to pronounced rigors. This sypmtom is tolerably frequent in pure mastoid empyema, almost invariably present in sinus phlebitis and thrombosis and usually occurs about once in brain abscess. The temperature, pulse and respiration reflect the presence of retained pus in the usual septic morning and evening wave, and being unusually elevated when meningitis occurs, spasmodically irregular upon the intervention of phlebitis or thrombosis, and very likely subnormal when actual brain abscess takes place. All these conditions may with some rarity occur, however, in a single case which will produce a complex clinical picture requiring skill and experience to clarify, and which, indeed, may not be fully understood until the patient is upon the operating-table and the various pathological lesions are disclosed by the thorough opening of the mastoid process, a procedure which fortunately is practically always primarily necessary in cases of mastoid abscess sequelea.

It is a matter of common observation that middle ear abscesses followed by mastoid

abscesses occur with frequency after such diseases as influenza, measles, scarlet fever, typhoid fever, diphtheria, pharyngitis, tonsillitis, etc., which should certainly teach the family physician the necessity for the regular and frequent antiseptic cleansing of the nose and throat during the life of such diseases, as well as the strict admonition against the violent blowing of the nose during such maladies, which unquestionably forces infection not only into the middle ear spaces but into the other accessory sinuses of the nose as well. It should also teach them the necessity for the prompt and thorough opening of middle ear abscesses in a proper manner in order that tympanic infections may be limited to this space, and not extend beyond into the mastoid antrum and cells. A long and careful observation of mastoid diseases will teach the lesson, that in spite of the usual symptomatology present in such cases, extensive necrosis and brain destruction may occur with almost no symptoms whatever. Cases will sometimes present themselves complaining merely of mastoid pain, or mastoid tenderness, or slight mastoid swelling, or uncontrollable aural discharge, unaccompanied in each instance by other symptoms, where a rather apologetic operation has revealed an extent of disease truly remarkable in its character. These instances, however, are not of the usual type, and while not to be forgotten, should never dishearten the surgeon in the vigilant search for mastoid abscesses. Neither should he be too quick to advise operative procedures, for all surgeons can remember more or less frequent instances where although unmistakable mastoid symptoms, such as middle ear abscess, mastoid pain, redness and swelling were present, the prompt and faithful use of such remedies as rest in bed, cathartics, diuretics, a thorough drumhead incision, hot bichloride irrigations, etc., have been followed by a subsidence of mastoid symptoms, and a cessation of the aural discharge. It may be said in this instance, that most experienced surgeons have discarded the use of the ice-coil over the mastoid process in the belief that while it frequently mitigates urgent symptoms it, at the same time unfortunately masks the true intra-mastoid condition.

The ordinary uncomplicated operation for mastoid abscess is not a difficult procedure, nor one that need tax the skill of any good general or special surgeon. It must, however, be remembered that not until the operation is well under way, and the interior of the mastoid process fully exposed for inspection can the operator determine whether the pathological lesions are simple in their nature, and curable by simple methods, or whether complications of a most serious nature are present, which may well call into play the knowledge and experience of the expert otologist. It seems reasonable to suggest, therefore, in a general way that no one should undertake what appears to be a simple mastoid operation who is not fully prepared by special study and clinical observation to proceed with the case, no matter what develops after the operative field is fully exposed; for, while the mere opening of the mastoid process can be easily accomplished, brain, sinus, and other complications may develop in the most unsuspected cases, necessitating the exercise of a high order of surgical judgment and skill to properly overcome.

The complete shaving of the skull and the close-cropping of the beard and mustache, is of course, one of the ideal preparatory procedures, but many modifications from this strenuous requirement will have to be observed, especially in female patients. The hair should at all events be shaved for an area of from two to three inches backwards and upwards from the meatus, and the uncut hair thoroughly and antiseptically shampooed and held out of the operative field as completely as possible. The long, infected, unmanageable hair of a woman is a distinct menace, not only to proper operative procedures, but also to the sometimes protracted period of dressings following the operative act. The process of preparing the cutaneous operative field for surgical intervention is so well understood that no space need be wasted in its description, but it should not be forgotten that the meatus should be thoroughly cleansed by perhaps peroxide of hydrogen, alcohol and warm bichloride irrigations, and plugged with gauze before the primary incision is made.

The writer does not depend upon daylight for illumination, but invariably uses an electric headlight which furnishes the best and most intense light with which he is familiar.

The operator should stand behind the patient, at least until the chiselling is well under way, at which time many surgeons prefer to stand or sit at the patient's side. He should commence the incision at a point about one-quarter of an inch below the mastoid tip, and extend it upwards about one-quarter of an inch posterior to the lobe of the ear, making a slightly curved incision to conform with the general outline of the lobe, care being taken not to cut off the cartilaginous meatus, which is not by any means an accident one can afford to forget. The incision should be extended upwards and forwards until it reaches a point directly over the anterior extremity of the auricular appendage. This incision is ample for all or-

dinary emergencies, and by curving the incision forward over the lobe into the squamous region, a wide expansion of the flaps becomes subsequently possible. The straighter incision of Whiting and others, with the secondary incision backwards for one inch towards the occipital protuberance, is excellent and affords a wide field for operation, but the writer fails to see that it possesses any advantage over the simplier method just described. The writer makes the incision on the start as extensive as he expects it ever to be, realizing that it is sometimes larger than necessary. This, however, signifies nothing, as a few sutures will easily set matters to right, and it is most embarrassing during the subsequent steps of the operation to be delayed by extending the incision, and annoyed by fresh outbursts of hemorrhage. After the incision is completed to the bone, the periosteotome is used to force back the soft tissues, care being taken to preserve the periosteum as much as possible, as it is of infinite value in the subsequent healing of the case, and should by no means be ruthlessly torn and destroyed. It is always important that the soft tissues of the anterior flap should be reflected forward to such an extent as to enable the operator to always keep in view the posterior and superior margins of the bony meatus, as their outlines afford to the surgeon a sense of location that is invaluable. The forcing back of the periosteum will be comparatively easy except in reoperative cases and over the roughened and uneven surface of the mastoid process proper, especially as the tip is approached, upon which the muscular tendons, etc., are attached. Over this area the periosteotome devised by the writer is of no value, and the instrument of Buck and Langenbeck should be used. Even these, however, may not be entirely successful, as then tendinous tissue is so firmly attached as to usually necessitate its removal by curved scissors. The use of the curved scissors or other instruments for this purpose should be tempered with caution, for it is not impossible to cut around the mastoid tip so vigorously as to injure the facial nerve which presents in this vicinity. Conservatism at this point should also be observed and the cervical tissues not exposed unnecessarily, because of the possibility of infection migrating from the mastoid focus downwards into the cervical tissues. Thus, while the entire mastoid cortex should be freed from soft tissue, and made ready for subsequent removal by the chisel, rongeur and curette; nevertheless, care should be taken that needless and injurious procedures should not be performed. In this connection it should be remembered that the rough and careless manipulation of a sharp periosteotome may tear or cut the cartilaginous meatus, and produce an embarrassing complication, not only during the operation, but also in the subsequent healing of the case. After the periosteum has been thoroughly removed from the field of prospective operative interference, the flaps of the wound should be firmly and widely expanded by retractors to afford the surgeon ample opportunity for observation and operation. The writer again desires to recommend the self-retaining retractors devised years ago by himself as possessing useful qualities rendering them extremely desirable for retracting purposes. By being self-retaining, they dispense with extra hands around the operative area, and maintain a steady pressure on the separated flaps. By expanding them to their utmost limit, and placing one pair in the upper angle of the wound and another pair in the lower angle (except infants where one pair is sufficient), they open a large and ample operative field, and at same time control all hemorrhage except that proceeding from the bone; indeed, the writer almost never uses an artery forceps in this operation, knowing that the moment the retractors are placed in position all flap hemorrhage will cease.

After the retractors are in position and the parts wiped clean and dry, search should always be made for softened bone areas or fistulae, which will be frequently found in cases of acute mastoid abscess, especially in children where the cortex is thin and soft. Such perforations will most frequently be found over the antrum, which it must be remembered in very young children is located above and somewhat behind the roof of the osseous canal, gradually attaining its ordinary position as time advances. Fistulae of the cortex may be frequently (especially in children) used as the initial point of entrance into the antrum or cells, which may be often thoroughly exposed by the rongeur and curette, without the use of the chisel. In young children this is doubtless the best method of procedure, as in infants the mere opening of the soft parts covering the mastoid, and the gentle scraping away of the necrosed bone over the antrum is frequently all that is necessary or prudent to accomplish, although Pollak reports a case in a healthy child where a neglected ear resulted in the exfoliation of the entire temporal bone, with a recovery of the patient. In adults, however, the mere persence of a fistula should not deter the operator from the object of his surgery, which is to thoroughly expose the entire interior of the mastoid bone, and to remove all pathological products. Thus, while it is possible that the presence of a softened and necrosed

cortex may render the use of the chisels needless and undesirable, yet in a vast majority of cases it will be necessary to carefully remove much of the mastoid cortex by the chisel and mallet.

To do this properly and safely, the surgeon should always remember to keep the cutting edge of the chisel well under observation, bearing in mind the possibility of injury to unseen structures, and especially to the sigmoid bend of the lateral sinus, particularly if a malposition of that elusive vein happens to be present. In chiseling away the mastoid cortex, the chisel should be first placed with its cutting edge on the bone, just back of the posterior margin, and below the superior margin of the meatus, at about the position of the meatal spine. The chisel should not be held upright or even nearly upright, but at an angle of about 30 or 45 degrees from the head, so that a mere shaving of bone is peeled off at each blow of the hammer. Thin strips of cortex should thus be gradually chipped away without allowing the chisel to plunge into the mastoid interior, until the bony casing is removed and the cells thoroughly exposed, remembering that is best to proceed slowly when the bone is found compact in character, as in such cases there is apt to be a forward displacement of the sinus. The opening thus accomplished should extend from the upper portion of the mastoid, on a line with the superior margin of the bony meats, to the mastoid apex, and from the posterior margin of the meats to the osseous covering of the sigmoid sinus, and should be at this, its widest, portion about one inch, or perhap three-quarters of an inch, in breadth.

In the opinion of the writer, the mastoid antrum should not be searched for until the cortex of the bone has been thus removed, when it can usually be found with much greater ease and safety than if burrowed for as the initial step of the bone operation. After an ample opening in the cortex has been effected with the chisel, the writer believes that the remainder of this portion of the operation can frequently be best accomplished with the careful use of the ronguer; indeed, he is convinced that the ronguer is, where it can be used, a much safer and more efficient instrument than the chisel, and should be used wherever possible, care be ing taken when removing the shell at the mastoid tip not to forcibly and ruthlessly pull and tear from their beds the attached fibers of the tendons and fasciae of the neck, thus inviting cervical inflammation. Such tissue should be carefully cut.

After the mastoid cortex has been thus removed, and any pus which may have collected either between the bone and the soft parts (subperiosteal abscess) or within the mastoid shell (mastoid abscess) been drained and mopped away and the entire field of operation thoroughly cleaned and irrigated, the softened bone and possible granulation tissue should be carefully removed with the curette, being cautious not to injure an exposed sinus. Whiting and others have called attention to the information derivable from the conduct of primary escaping pus from a matsoid cavity. For instance, if it oozes out slowly it indicates limited pathological changes; should large quantities without pulsation escape, it indicates extensive pathological changes, but inact internal mastcid walls; should large quantities escape with pulsation, extensive pathological changes, with destruction of the inner table of the skull and at least epidural abscess is indicated. These observations are certainly in accordance with the views of any surgeon with extensive mastoid experience.

After the softened bone and granulation tissue have been cautiously removed, the field of operation should again be irrigated, and dried, when the interior of the mastoid shell is ready for careful inspection. Perhaps the first thing to be done now is to find and cleanse the antrum, which should not be difficult of accomplishment after the cortex, softened bony partitions, pus and granulation tissue have been removed, although Politzer does not favor opening the antrum in acute mastoid abscess unless distinct indications for such a procedure exist. Under the list of such indications he classes necrosis of the bony wall separating the antrum from the abscess, or evident antrum granulations, or signs of meningeal irritation. In such views, however, he stands nearly alone, as some operators feel that the trouble began in the middle ear, and proceeded to the antrum and cells, and that this space should be cleaned and drained. The position of the antrum will usually be clearly seen, but if not, a search should be instituted in the extreme upper and anterior angle of the bony opening, just back of the superior and posterior angle of the osseous meatus. If the chisel and curette be carefully used at this point, proceeding inward, forward and a little upward, and keeping close to the superior posterior wall of the meatus, to a depth of about five-eighths of an inch, the antrum will be almost invariably found, bearing in mind that in children this cell is very near the mastoid cortex, and that, indeed, in infants, a single blow of the chisel and mallet will enable the surgeon to view its interior. The antrum should be cautiuosly but thoroughly cleansed and curetted, and its mastoid open-

ing enlarged to admit of good drainage, but it is not usually wise to carry our investigations into the tympanic cavity or the aditus ad antrum. In curetting, or chiselling in the antrum aditus or upper portion of the mastoid shell, it should never be forgotten that the roof is thin and that the brain may be easily exposed, and the same warning should be remembered in working in the neighborhood of the facial nerve, semi-circular canals and sigmoid sinus. The mistake is frequently made of forcibly probing the middle ear and the forcing of "through and through" irrigation between the mastoid cavity and meatus, both of which procedures are not only unnecessary but often harmful. The writer does not beileve that even investigation of the tegmen tympani should be permitted by probing in acute mastoid abscess, unless brain symptoms are evident, as dislocation of the ossicles, and interference with the function of audition, etc., may easily be produced by even a careful surgeon.

The antrum having now been exposed and curetted, the entire inner mastoid plate should be minutely examined by a probe for the detection of necrotic softenings and perforations. Such pathological conditions are most likely to be found over the sigmoid bend or knee of the lateral sinus, through the tegmen tympani or tegmen antri, through the apex cell into the diagastric fossa, and sometimes through the posterior wall of the external meatus of the ear. Should such conditions be found in the osseous covering of the sinus, the bony shell and granulation tissue should be gently removed by curette, elevator or small ronguer, being careful to remove all unhealthy bone, and to obtain a comprehensive view of the dural covering of the soft sinus, which may, of course, be found in a normal or abnormal position. Pus may be found between the dural and osseous coverings of the sinus, constituting what is called a perisinus abscess. This should be thoroughly evacuated and the bone removed as far as the pus extends, in order to obtain absolutely free drainage. In a case recently operated by the writer the soft sinus as separated from the bony sulcus almost as far back as the torcular herophili, the space being profusely occupied by granulations and pus, which were thoroughly removed by the curette. There was no intra-sinus disease, and the sinus was not opened. This was a case of streptococcus infection following influenza. The discharge was unceasingly abundant and had existed for seven weeks. There was pain over the antrum, digastric fossa and mastoid vein, and no other symptoms. The operation revealed most destructive osseous changes, Bezold's mastoiditis, and the perisinus abscess, etc., just described. It is, of course, possible that the removal of granulations may disclose a perforation of the dural covering of the sinus, and more or less profuse hemorrhage be produced, in which case cleansing of the sinus may be indicated, or a phlebitis or thrombosis may be present which will require a still more radical sinus operation. In case it become necessary from any cause to remove the osseous covering of the sinus, the latter will then be laid bare for close and careful examination. The sinus in its natural condition is bluish-white in color, easily compressible with the finger or probe, sometimes pulseless, and sometimes pulsating from contact with contiguous brain tissue. The different appearances of the sinus in health and disease and the operations for the relief of its pathological conditions are so varying and extensive that they may not appropriately be dwelt upon in a communication of this character, and will, therefore, be allowed to pass without further remarks. It occasionally happens that the soft sinus wall will be accidentally perforated in the course of an operation by an instrument, or a bone splinter. This accident will be evidenced by a sudden gush of venous blood, which sometimes presents a truly appalling appearance. But little anxiety need be felt, however, unless infection has been carried into the sinus interior, as the hemorrhage can be easily stopped by firm pressure with an iodoform gauze pad, care being taken first, however, to remove from the site of injury any bone splinter that may have produced the trauma. At the operation and in the first and subsequent dressings of the case the sinus wound should be kept as much separated from the other portions of the wound as possible by separate packings, to avoid infection, and this precaution should also be observed where other portions of the dura or brain tissue have been exposed.

Softened and carious areas of bone may be found in either the roof or tegmen of the tympanum or antrum, and should be carefully removed in the same manner as suggested for similar conditions over the sinus, the mistake never being made of merely securing an opening or vent through the bone; all of the carious bone should be removed and even some of the healthy bone, if this proves necesasry to thoroughly inspect and explore the condition of the underlying dural or brain tissue. Of course, this should be accomplished with much circumspection and under intense illumination, gradually picking off piece by piece, principally with a small rongeur, until a satisfactory view of the parts is obtained. An epidural abscess will some-

times be thus exposed which can be evacuated and cleansed, after which the dura can be carefully inspected for pathological appearances. The writer, however, does not believe it wise to open the dura for brain examinations unless distinct indications exist for, such a procedure, such as a tense perforated or inflamed dura, or a dura fluctuating to the touch or dull and lifeleess in appearance.

In case pus, swelling, inflammation, etc., causes the surgeon to believe that Bezold's mastoiditis is present, the entire tip of the mastoid process should be removed by the rongeur, curette and scissors, care being taken not to injure the facial nerve and to produce as little trauma as possible to the tendons, fasciae, etc. All pus deposits in the cervical tissue should be freely liberated and ample openings provided for complete and thorough drainage. Great care should be taken that absolutely all of the mastoid cells are opened and exposed, as it is an easy matter to overlook one or several cells that are pus-ridden, which will perhaps require secondary operative procedures for their relief. The writer has not infrequently felt that the operation was completed, when more careful search has disclosed the existence of such unsuspected pockets, which would undoubtedly have produced annoying complications later, in case of their non-discovery. It sometimes happens that more or less infection has been carried into the zysgomatic cells over the ear, and while it is not necessary to always expose these often neglected cells in their entirety, yet it is well to at least carefully inspect the most superficial of them as they usually indicate the condition of the more deep-seated cells. If infection is found, however, their thorough removal, as far as infection extends, is, of course, indicated.

After the operation is completed, the parts should be thoroughly cleansed and irrigated by means of a bichloride solution, 1-5000, or other suitable antiseptic solution, after which the writer has been for some time in the habit of freely pouring a 25% to 50% solution of argyrol into all portions of the wound, a procedure which he frequently repeats at subsequent dressings.

One or two silkworm gut or Michel metal sutures are now applied in the upper angle of the wound, and sometimes, but not usually, one in the lower angle, all of which should include the periosteum. The parts should now be dried, and especial care be taken to dry the innermost cavities by gauze or cotton on a cotton holder, after which plain gauze, about one inch in width, should be gently but firmly packed into the osseous cavity, being particular to begin the packing at the innermost recess of the antrum. A narrow strip of gauze should also be carried gently into the meatus as far as the drum membrane, in order to insure drainage from the tympanum. The writer seldom uses iodoform in any shape iu these operations, on account of its smell, and because he has seen a number of cases of iodoform dermatitis even from its cautious application in the form of weak iodoform gauze. He uses instead in the subsequent dressings insufflations of powdered xeroform, form which he has an accumulating respect, and strips of xeroform gauze. Soft loose gauze should now be freely placed over the wound and side of the head, and a soft, pliable, cheese cloth bandage, about two inches in width, carefully and evenly applied over the head, to be covered with something in the shape of a close-fitting night-cap, for the purpose of comfort and safety. The writer leaves his cases unmolested for three days after the operation, unless distinct indications exist for a removal of the bandage; nor is he at all disturbed by a temperature of perhaps 99½ degrees or 100 degrees for some days after the operation, believing this to be the rule (especially in chidren) rather than the exception. Upon the third day after the operation the bandage, packings, etc., are removed, and fresh applications made; nor has the writer often observed excessive pain accompany the removal of the packings, as depicted by some authors. Careful soaking of the packing by peroxide of hydrogen and warm antispetic irrigation will allow the gauze to come away with reasonable comfort, not forgetting, however, that while peroxide of hydrogen may be freely used for softening the outside layers of gauze, it should never be used on the inside layers, or the mastoid or cervical cavities, for fear of driving infectious micro-organisms into remote locations. After the wound has been thorougly cleansed, the writer first soaks the parts with enzymol solution prepared by Fairchild Brothers & Foster after which the tissues are dried and a 25% or 50% solution of argyrol freely applied and the tissues redried. The parts are then powdered with xeroform and fresh gauze packing inserted and a bandage adjusted. These dressings are made every other day or every day if the discharge is profuse. If the wound shows a disposition to keep dry the writer applies no solutions but merely wipes the parts dry insufflates the xeroform powder and inserts fresh packings etc. which is gradually diminished in quantity until the wound is healed. The sutures are usually removed in about six or seven days. It is a mistake to remove them too soon, lest the wound opens, or too late, for fear of producing stitch ab-

cesses. In case excessive granulations occur during the healing they should be carefully curetted and application made of carbolic acid, tincture of iodine, nitrate of silver, etc. The discharge from the ear usually ceases in a few days from the date of operation, and the mastoid wound will usually be healed in from three to eight weeks.

72 Madison street.

THE IMPORTANCE OF POST-OPERATIVE TREATMENT OF DISEASES OF THE RECTUM.*

W. H. STAUFFER, M. D.

ST. LOUIS.

EVERY few years the profession is treated to some new operation in surgery, the presentation of some much wanted instrument, or the modification of some operation or instrument. This custom has become so prevalent of late that the profession looks with suspicion on all such until an honest demonstration is made. It is not my purpose to criticise the operator or the operation, but to insist in as forcible a manner as possible, that he complete his work, generally well begun, first, for the future welfare of his patient, and next for the sake of his own reputation.

In scanning the pages of many of our excellent text-books and journals, one is impressed with the large space taken up in discussing the symptoms, etiology, pathology and many artistic, rather than useful, illustrations intended to assist the operator in his technique, while the treatment is dismissed with a few sentences, if indeed it be mentioned at all. Following any surgical procedure, there are many remote diseases occurring with sufficient frequency to keep a thoughtful surgeon on the lookout for unforeseen complications for days and weeks, or until the patient's convalescence is at an end. Good assistants and well trained nurses are not always unmixed blessings, however useful and ornamental they may be in the sickroom. Our responsibility, for lack of proper attention, should not be shifted to subordinates. If a man is too busy to give his work the attention it deserves, there are others who may not be so skillful, but are often more conscientious, who are perfectly willing, yes, waiting, for patients with patience.

The advent of the well-nigh universal use of local anesthetics for surgical operations is largely responsible for incomplete and bungling work. Because rectal surgery is classed in the field of minor surgery, does not make it less important. The percentage of imperfect results or deaths is higher in minor surgery than in pelvic, or gallbladder, or stomach surgery. The mortality resulting from whooping cough and measles was higher last year than the combined mortality of diphtheria and scarlet fever. Who of us does not do better work when our patients are very sick, or a surgical operation requiring our best effort confronts us? The pain and discomfort resulting from an ulcer or fissure of the rectum is often out of all proportion to the size of the lesion, and not infrequently unfits the unfortunate victim for mental and physical usefulness.

There is no doubt that many surgeons are doing minor surgery in their offices. Nothing can be said if the office is as well equipped for the purpose as a modern operating-room in a hospital, except that the patient will always be subject to the dangers of a transportation to his home. If these dangers are of minor importance there can be but little objection. Still, for all but certain specialties the practice is not to be recommended. I think that such operations as curettement, or the ablation of internal hemorrhoids, or the dilatation of urethral strictures should be done under anesthesia and in a hospital, and neither at the home of a patient nor at the surgeon's office. The dangers and accidents which may follow an anesthesia, either local or general should not be incurred except in a hospital.

Another reason for condemning office operations is the fact that the failure or success of office operations will depend upon the preparation previous to the operation which is always necessary, and this can be given much more conveniently in a hospital than elsewhere.

Another weighty argument against office operation is that we never know exactly what patients will suffer from shock after minor operations, but we known that the treatment of this condition can become very protracted and may require the most painstaking attention, severely taxing the trained attendants of a well equipped hospital in some cases. Therefore, I cannot advise the office treatment of minor surgical cases. In other words, I do not favor the performance of operations requiring anesthetics in the office. The future treatment and the change of dressings, in which anesthesia is not required, may be done in a well furnished office, although even for this purpose the dressing room of a hospital is the safest and most preferable place.

*Read before the Missouri State Medical Association, May 16, 1906.

The post-operative treatment depends, first, on the nature of the pathological condition; and, second, the operation selected for the relief or cure of the same. In a general way it may be said that in the choice of operative interference to be selected, that operation is the best which sacrifices the least tissue, is least painful and does not impair function. Any undue violation, or injury to tissue involved in any operation invites infection, which is only another term for inflammation.

The so-called ambulant treatment of diseases of the rectum is wrong in principle, as it violates the first law of nature in the restoration of any diseased or injured organ, namely, complete rest of the part, so that nature may do her duty in the shortest possible time.

Anyone who knows his anatomy can perform a colotomy, but it requires patience and some mechanical ingenuity to secure a serviceable artificial anus, and the comfort of the patient depends more on the latter than on the former. How often do we hear patients say that they would much prefer death to the condition of some one they know who had consented to colotomy; still, as you know, there are few, if any, operative procedures which promise so much relief, if properly executed.

The cause of ulceration is undoubtedly microbic. Both Dr. Klein and Prof. Sims Woodhead have made a most thorough investigation of the discharge from the ulcerated surface and also of portions of diseased tissues, with a view to the determination of the cause of this disease. These investigations have not led to the discovery of any specific bacillus other than the bacillus coli communis, so that it is possible that this organism may under certain altered conditions of soil be capable of producing the disease in question. The exact nature of the exciting cause is still in doubt, but that the predisposing cause is an unhealed wound the histories of my cases clearly indicate. These records with few exceptions show that ulceration only supervened in the operation wounds of patients who had been allowed either to leave the hospital or to go about before complete cicatrization had occurred, and I have never personally met with an exception to this rule. I would strongly urge, therefore, that patients who have undergone rectal operations should not be discharged until their wounds have completely healed. It is true that partially healed wounds in the majority of rectal cases proceed to complete cicatrization after the patient has been discharged, but the risk of infective ulceration supervening is sufficient to justify keeping such patients in bed until the wounds are soundly healed. A week or two longer in the hospital is to my mind much preferable to the risk of contracting a disease which may take years to cure and invariably gives rise to sequelae that decidedly tend to make the patient's life miserable, at least for a time, and in some cases to shorten it.

Any operation on the rectum resulting in cicatricial tissue, predisposes to ulceration, as the nutrition of the parts is thereby involved.

The so-called hypodermatic method of treatment of hemorrhoids is another prolific cause of ulceration. It is a recognized fact that cicatricial tissue in the cervix uteri predisposes the parts to ulceration, making the location a good one for carcinoma.

W. J. Mayo, in a recent article on cancer of the stomach, has this to say: "Especially must we be suspicious if in the history there are symptoms of old or recent ulceration. In our 39 cases, 56% showed direct evidence of carcinoma developed on ulcer.

Graham showed a clinical history of ulcer in over 50% of the cases of gastric carcinoma which have come under his observation, although years may have elapsed between the two diseased processes."

J. B. Murphy gives it as his opinion that the majority of cases of cancer of the stomach will show precancerous symptoms of ulceration. If these conditions existing in the stomach and cervix uteri predispose to malignancy, why would not simliar conditions, so frequently found in the rectum, be responsible for like results. When we consider the fact that over 80% of malignant growths occurring in the intestines are located about the rectum and anus, and our inability to treat cancer satisfactorily in most cases, a new significance is placed on the importance of treating conditions predisposing to this sad ending.

This question cannot be settled by post-mortem evidence. For instance, suppose we were told that the post-mortem examination of one thousand women who had died of cancer of the cervix uteri did not show a single one who had cervical laceration, would not the query at once arise, how entirely impossible it would be for the most skillful pathologist to determine from the specimen in question whether there had ever been laceration?

Is this not equally true of cancer of the rectum? Before the patient dies, all traces of the ulcer would be lost in the gross extent of the disease.

Prevention of disease and pain should ever be our aim, and if operative interference is indicated, let us do our work wisely and well.

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THE EVOLUTION OF THE ROENTGEN RAY.

H. P. WELLS, M. D.

ST. LOUIS, MO.

As long ago as the middle of the eighteenth century, we find what is probably the first step toward the final discovery by Roentgen, of Würzburg, of what he so modestly called the X-ray, now commonly spoken of as the Roentgen Ray.

A French abbé by the name of Nollet, born at Pimpre, in 1700, and later associated with MM. DuFay and deReaumeur in their philosophic and scientific work, seems to have been the first to experimentally conduct a current of electricity of high intensity through a partially exhausted glass globe. The resultant phenomenon observed by Nollet, from this experiment, is today known as the Geissler light, although Geissler did not live until a century after Nollet. Nollet's experiment consisted in passing a current from some sort of exciter, probably the primitive form of static machine described by Hawksbee in 1765, through a glass globe so arranged that it could be gradually exhausted of air, and so that the current had to spark across a gap between the two terminals of the globe.

The abbé at once observed a curious phenomenon that was destined within a little more than a century to lead to the discovery of a most marvelous pathfinder in fields hitherto unexplorable save to the surgeon's knife.

Nollet discovered that as the atmospheric pressure in his glass globe decreased by the action of his suction apparatus, the electric spark, which under normal pressure was a mere thread of luminous energy, began to broaden out, and as the pressure in the globe became more and more minus, the luminous phenomena became still farther modified. The constantly broadening shaft of light began to throw off shimmering and scintillating aigrettes of a bluish-purple light, and a little farther on in the process of exhaustion the whole globe became aglow with the dancing light.

From these phenomena the abbé at once concluded that the electric fluid circulated more readily and the rarefied gases were ignited more easily, in the lowered atmospheric pressure than under the normal pressure, or in the open air.

It may be timely to note here that although the simple glass globe and generator of Nollet have evolved into the perfected apparatus of today, the glass globe becoming the modern Crooks tube, and the simple sparking knobs the anode and cathode of specialized form, and much more powerful generators of current are used; his equipment was the prototype of all that has followed, and was all that is essential, as far as apparatus is concerned, to the production of X-rays.

For after all that may be said of mechanical refinements of modern times, the principle involved is the essential thing. We follow a principle, like Franklin's kite string message from the clouds, or Watts' kettle-lid dancing on its elastic cushion of steam, until by their own fascinating allurements we are led on to the complexity of discoveries and inventions, which always follow the announcement of a great principle.

It is but too frequent that real pathfinders are lost sight of in the din of the procession that follows them, and that miners of diamonds in the rough are completely eclipsed by the brilliancy of the product in the hands of the polisher.

Further observations followed those of Nollet. Abria of Bordeaux, Faraday, Gassiot, Spottiswoode, Fernet, Hittorf, Goldstein, Wiedeman, Hertz, Lenard, Giessler and Crooks, all contributed their more or less important share in the evolution of this latest of great scientific achievements.

But to the last two mentioned, probably belongs the credit for having given the later and final impetus to the work begun a century before by Nollet.

Geissler, a clever mechanician of Bonn, fashioned an elaborate array of vacuum tubes of many shapes, and by the use of various gases under varying degrees of pressure produced a most imposing group of specimens,

which have been used ever since by demonstrators of physic to illustrate the effect of the minus pressure on an electric current of high electro-motive force.

Sir William Crooks' part in the work of development was to bring the vacuum up to a higher point than had ever before been reached, only a few millionths of an atmosphere, at which point, and indeed before this high degree of exhaustion is reached, the phenomenon of the Geissler tube entirely changes. Instead of the uniformly distributed halation which is seen in the tube of Geissler grade, understanding that the only difference between the Geissler and Crooks tube is in the degree of vacuum, in the Crooks tube was observed this very curious changes: The light divided into two distinct centers of radiation, of different colors, surrounding the two terminals of the tube.

That about the cathode or negative terminal was of a delicate dark blue, while the light about the anode or positive pole was of a dilute magenta hue.

As exhaustion proceeds from this point, which for the convenience of classification is taken as the beginning of the Crooks effect, the light about the anode gradually fades while that about the cathode strengthens in volume and intensity until it fills the entire tube.

This is the stage at which we get what is now known as the cathode ray and which has recently come to the front as a therapeutic agent of some repute.

Up to this point in the evolution of our subject we have covered a period of about a century and a quarter, from the time of Nollet and Hawksbee in the middle of the eighteenth century, up to 1875, when Crooks put new energy into the subject, which prior to his time had engaged but indifferent attention.

No mention can be made of the many relatively less important observations and discoveries made by a large number of workers, but whose efforts none the less prepared the way, each forging his link in the continuous chain from Nollet to Roentgen.

It is quite certain that the first time that X-rays were produced artificially was in 1875, when Crooks passed the discharge of a powerful induction coil through a tube of higher vacuum than had ever before been reached, somewhere in the neighborhood of one millionth of an atmosphere.

He did not recognize what he had achieved; it did not occur to him that he had set foot on the borderland of a new and unexplored territory was destined within a few years to become the golden discovery of another. In comparing this astute scientist with that intrepid mariner who braved the unknown seas in search of the Western passage, and who, after months of weary watching, came upon what he thought to be the object of his long and tireless search, and then turned back to whence he came, in ignorance of the full significance to the world of his great accomplishment, we may feel a genuine regret for the patient toiler who so closely missed what would have been the crowning triumph of his long and useful life.

In 1892 Hertz discovered that the cathode rays produced in the Crooks tube penetrated gold leaf and thin sheets of many other metals so placed within the tube as to intercept the cathode rays. This demonstration was made by the use of certain fluorescing salts in the same manner as we use them today for the same purpose.

Soon after this discovery of Hertz, his assistant, Lenard, found that this phenomenon took place outside the tube wall as well as within it, but that the glass wall of the tube offered considerable resistance to the passage of these rays. He accordingly constructed a tube with an aluminum window so placed in the wall of the tube as to fall in the path of the stream of cathode rays emanating from the cathode terminal. He observed that the rays coming through this aluminum disc penetrated opaque substances with greater or less facility, according to their density and, as he believed, their atomic weight.

As incredible as it may sound to those who do not know this statement to be true, these demonstrations of Hertz and Lenard were at once followed by experiments with photographic plates, with the result that X-ray photographs were made fully three years before the world at large ever heard of Prof. Roentgen.

In 1893, Herbert C. Jackson, of King's College, London, working with Lenard, came very near to making the great discovery that was reserved for Roentgen; but they made the single mistake of supposing that all the then known phenomena concerning the vacuum tube were due to the cathode ray, a visible ray of light.

And so, although it can not be doubted that X-rays were produced in the experiments of a number of workers, before the fame of Roentgen, it remained for him to complete the history of their development and to shape the results of many years labor on the part of his predecessors into a thing of practical utility and eternal beneficence to mankind.

Early in November, 1895, Professor William Conrad Roentgen, the Professor of Physics at the University of Würzurg, while experimenting one day in his laboratory with a

Crooks tube of what was the a very high vacuum, accidentally discovered that some crystals of barium-platino-cyanide, which happened to lie within the range of the tube, brilliantly fluoresced under the influence of the energy which came from the tube. He then discovered the same effect.

Experiments with photographic plates and with fluoroscopes made of pasteboard coated with various fluorescible salts, were matters of detail which speedily followed, and which, by the way,did not materially differ from the same experiments made by others before him.

Why, then, do we enshrine the name of Roentgen and place it in an immortal niche, which must ever be kept lustrous by this great discovery?

Because it was Roentgen, with the keenness of perception of the great hero, who assembled all that was known concerning this mysterious force, and at once coined the hitherto useless knowledge into a thing of real value to the world for all time. And as there was much that he could not account for scientifically about this new ray, with the modesty of the true scientist, and to indicate his ignorance of its true nature, he suggested that it be called the X-ray. An appreciating world, however, readily accorded him what he did not claim: the right to attach his own name to his epoch-making discovery.

Professor Roentgen made his first announcement to the Physio-Medical Society of Würzburg within the same year, 1895, in which he stated it as his belief that the cathode ray and the X-ray were not the same. He had concluded that while the cathode ray was essential to the production of the X-ray, they were not X-rays until some other change took place, and that this change probably occurred when the molecules of rarefied air in the tube, which were energized and set in motion in some peculiar manner by the cathode stream, struck against the wall of the tube, producing a greenish fluorescence in the substance of the glass, and through the medium of the latter exciting the X-ray. From this time progress in X-ray matters was rapid. Scientists in all parts of the world began to experiment with the Crooks tube and induction coil or static machine, and their observations were noted and exchanged.

While Roentgen's first experiments were made with the original pear-shaped tube, with no provision for focusing the cathode stream onto a target, and thus concentrating the source of light, it was not long before Herbert Jackson, of London, suggested to Prof. Roentgen the use of a device invented by Crooks some time previously, to accomplish this purpose. This was done by placing a piece of platinum in the track of the cathode ray, attached to the anode terminal at an angle so as to receive the cathode rays at a focused point and deflect them onto the wall of the tube. At once the whole field of work was changed when this had been done. Instead of the greatly distorted and indistinct images which had been gotten from the older tubes, this modification yielded a result as surprising as it was gratifying. The image on the fluoroscope and dry plate was at once made sharp and proportional, and of as great importance as these improvements was the fact that the time of exposure necessary to make a photograph, more properly a radiograph, was reduced from as much as an hour to as little as half a minute.

As to the exact physical nature of the X-ray, several theories have been advanced. But that most generally accepted is the one proposed by Maason. He believed that the phenomenon was a sort of electric convection. The gaseous particles in the highly rarefied atmosphere of the tube obtain a negative charge from the cathode and are then at once repelled; the extremely diminished number of the ions of atmospheric gas in the nearly complete vacuum rendering them free to follow a rectilinear path unimpeded until they strike the wall of the tube, where they cause the green fluoroscence by mechanical action on the glass. It is this action on the wall of the tube, according to Maason, and most other authorities, which is the immediate source of the X-ray. Maason clearly demonstrated that the vacuum of a Crooks tube can be so highly rarefied as to render it entirely incapable of producing X-rays of any demonstrable quantity or quality. This is a fact well known to all workers with Crooks tubes. For when in course of time,and after long use, a tube gets, so to speak, very high, the coil or static machine upon which it has been used is no longer able to excite sufficient disturbance in the tube to generate the X-rays. But if such a tube be put on a generator of greater power or a coil of longer spark length, it may again work well for a considerable time, until the vacuum runs still higher. This observation might lead us to the conclusion that the highest possible vacuum obtainable results from electric decomposition of the remaining gases after the mercurial pump has been used to the limit of its capacity.

Maason's idea, condensed, is that it is the presence in the tube of free ions liberated by dissociation of the atmospheric gases under the influence of high exhaustion, which ions move in straight lines at a tremendous velocity until they strike the wall of the tube, which accounts for the X-ray phenomenon. But whether the rays themselves

are matter in motion, rays of light which may be polarized, or some other kind of molecular vibration, remains an unsettled question.

It has now been a decade since the world became enriched by this latest of great scientific achievements; but in that short time, so widely known has it become, and so necessary to the conscientious physician and the surgeon, that we may well say of it, qui non proficit deficit; he who does not profit by it, shall be the loser thereby.

The trialphan diadem of anesthesia, antiseptics and antitoxines, sets with lustrous honor on the brow of medical science of the nineteenth and twentieth centuries. And now, to glorify the day in which we live, there comes the announcement of a new ray of light and hope to lead us farther on, where the darkness shall be illumined and where suffering and affliction shall be found and relieved, all toward the working out of human salvation through the forces of Nature, dominated, as we may or may not believe, by something more than the mind of man.

A CASE OF TERTIARY SYPHILIS WHICH RESEMBLED IN ITS COURSE AND AND SYMPTOMS PHTHISIS PULMONIS.

WALTER FISCHEL, M. D.

ST. LOUIS.

Clinical History.— Fred R., age 46, married. A native of Germany. Occupation, teamster, also has worked as a fireman. Entered the City Hospital November 11, 1905. Chief complaints were loss of appetite and weakness.

Family History.—Mother and father living and healthy, ages 80 and 78. One sister died of consumption.

Habits.—Has never been a heavy drinker. Smokes some. Has always been a hearty eater. Patient is married and the father of three healthy children.

Past History.—Up to last February had been a very healthy man. Had grippe fifteen years ago, and again last February. No other sickness except several attacks of gonorrhea. Denied syphilis.

Present Trouble.—Ever since the last attack of grippe in February had not been well. His apetite had gradually failed; first for meats and then for everything; and he said that he had lost 75 or 80 pounds since April. Since July he had been too weak to work. During the early part of July he had severe pains low down on the right side of his chest anteriorly. These pains he said felt as if he were being crushed in a vise. He had never had any pains directly referable to the stomach, but he had vomited a great deal at times. Vomitus never contained blood or material resembling coffee grounds. Bowels usually constipated, but sometimes loose. Never any blood in the stool. Had had a slight cough for some time, and occasionally had night sweats. During the summer he said he had malaria.

During October patient was in the hospital for about ten days, and his case was then diagnosed as probably incipient phthisis, although no tubercle bacilli could be found in sputum and there were no positive physical signs of phthisis in the lungs.

Present Condition.—On November 11, when patient entered hospital he had a temperature of 100 deg., pulse 96, respiration 20. Had a slight cough and a scanty muco-purulent sputum. Complained of feeling chilly. No appetite. Bowels constipated.

Physical Examination (at time of entry).—Patient is a man about 5 feet 7 inches tall, weighing 100 pounds or less. Very much emaciated. Skin of a sallow color. Mucous membranes pale. Pupils equal and react to light and accommodation. Abdomen retracted No tenderness on pressure. No palpable masses. Liver and spleen were not palpable, although latter seems enlarged to percussion. On skin over abdomen and thorax are a number of small red papules which do not fade on pressure.

Chest is thin. Supraclavicular fossae are very deep. Respiratory movements equal on the two sides. Can find no suspicious area in the lungs except for a small space just by the angle of the left scapula where there is slightly diminished resonance and can hear a very few small crepitant rales. Tactile fremitus also slightly diminished and no increase of vocal resonance.

Laryngoscopic examination shows the mucous membrane of the pharynx and larynx to be congested and covered with a thin layer of grayish mucous. No ulceration visible. Heart is not enlarged. First sound is weak. Second pulmonic sound slightly accentuated. Pulse is small, soft and regular. Urine normal.

Blood.—Leucocyte count November 13, 6600 per cu.mm. Differential leucocyte count showed a slight relative decrease in the polymorphonuclear and an increase in the large lymphocytes. No malaria plasmodia found after repeated and frequent examinations of the blood, both in stained and fresh specimens. No tubercle bacilli could be found in sputum. The following notations made in the history will give an idea of the course of the disease while the patient was in the hospital.

November 17.—Since entering hospital patient has not been without fever until this morning Temperature has ranged from 99.4 deg. to 102.2 deg. F., and is always higher in the evening. Pulse usually about 100, and respirations between 20 and 26. Patient has had a hacking cough, and complains some of throat feeling sore. Has had several night sweats. Has not vomited since entering hospital.

November 27.—Patient has not improved any. He has been having drenching night sweats every night and cough is severe.

November 29.—Patient told me today that fourteen years ago he had a sore on his penis, and shortly after that much of his hair dropped out. Also had a swelling in his groin which did not suppurate. Following this suggestion I prescribed hydrarg.chlor.corros. gr. 1-30 and potass. iodide sat. sol. mx, increasing one drop each day.

December 7.—Patient seems to be improving. Does not have night sweats now, but complains of itching of skin at night. Appetite is fine. Weight today 120 pounds.

December 12.—Yesterday and today patient had severe chills followed by high fever and sweating. This morning noticed a small area of redness under right eye which area has increased in size rapidly during the day. Skin is edematous and slightly indurated. Margins of redness sharply defined.

Diagnosed erysipelas and patient transferred to the Emergency Hospital.

December 21.—Returned from Emergency. During the time he was away he received no antisyphilitic treatment and feels worse.

December 25.—Weight 128 pounds. Is again improving.

December 29.—Physical examination recorded. Still looks emaciated, but not nearly so much so as he did a month ago. Tongue is clear. Abdomen not retracted. No abnormalities found in abdomen. Patient has a small rectal fistula. Chest expands well. Lungs give good resonance all over and no rales heard. Heart not enlarged—first sound muffled. No murmur. Pulse is strong.

Nervous System.—Pupils are small but react slightly to both light and accommodation. Right knee jerk is slightly exaggerated. Left one is diminished. Achilles reflex is present on left side and absent on right. No ataxia of either hands or feet. Very slight Rhombergism. When patient walks he seems to have difficulty in raising his right toe from the ground.

December 30.—Patient has recovered sufficiently to go home and continue treatment there. He was therefore discharged.

When he left I gave him prescriptions for the bichloride and potassium iodide, and asked him to drop in and see me every week or so.

I saw him the 14th of January. He then looked strong and robust. Said he weighed 165 pounds and had returned to work.

On the 27th of February he again came to see me. Weighed 172 pounds, and said he was feeling fine. For past two weeks had taken no medicine, and said he occasionally felt slight pains in his left side, which quickly passed off. I told him to start in again on the iodide.

I asked the patient to present himself tonight before you so that you might see for yourselves his present condition, and if any cared they might examine him.

The diagnosis made in this case was based almost entirely on the results of treatment, taken with the history of an initial lesion which from the patient's description could not be definitely called specific.

Up to the time the patient confessed to having had a sore no definite diagnosis had been made, but the course of the disease with its progressive emaciation and weakness, and its beginning after an attack of grippe, together with the symptoms of anorexia, hacking cough, slight mucopurulent sputum, remittent type of fever and profuse night sweats all pointed to tuberculosis.

Syphilis of the lungs is said to be such a rare disease that I hesitate to claim such a diagnosis for this case. The physical signs pointing to a lesion in the lungs were at no time pronounced, and yet this very point, I gather from the descriptions of the disease I have read, is rather in favor of the diagnosis.

Dr. E. Aufrecht, in Nothnagel's Encyclopedia, describes a case of his own which in many respects resembled mine both in the history and the physical findings. In brief the case was as follows: Mrs. F., age 42, admitted to his hospital in March. At age of 23 had contracted syphilis. For a year before she entered hospital had been short of breath when mounting stairs. For six months had had a feeling of constriction about the chest, had suffered much from cough. During past six months had lost 24 pounds in weight. When entered face had slightly livid appearance; respiration difficult. Nothing abnormal could be found in heart or lungs; nothing abnormal seen in larynx or trachea.

Potassium iodide was administered, and in four weeks patient was so much improved that she was discharged.

But after four days she returned complaining of grave attacks of apnoea. These attacks reappeared frequently and could only be controlled by morphin injections. After the prolonged use of iodide potassium improvement took place and she was discharged in

June, although not quite free from dyspnea.

Four weeks later she was again brought to the hospital suffering from intense dyspnea, stertorous breathing and cyanosis of the face. While so far the lungs had appeared to be normal and the symptoms had been ascribed solely to a syphilitic sclerosis of the large air passages, there were now discovered dullness and fine rales on the right side of the thorax from the middle of the scapula down. Fever had never been present before, but now the temperature ranged from 102.7 deg. F. to 97.6 deg., and was higher in the mornings than the evenings. After five days she died.

At the autopsy the middle lobe of the right lung was found to be almost airless, cloudy, of tough consistency and a cut surface, pale gray, not granular.

There was also found a sacculated aneurism of the aorta which pressed upon the trachea just over the bifurcation, leaving only a narrow slit-like opening in the lumen. The microscopic examination of the affected lung showed the alveoli mainly filled with small round cells interspersed with red blood corpusoles. In addition to this there was a considerable increase in the thickness of the walls of the smaller vessels, the adventitia being chiefly affected.

Dr. Aufrecht cites this case with the microscopic findings as definite proof that there may exist a diffuse pneumonic disease secondary to syphilis. An occurrence which has been doubted by many.

Fortunately for the patient my case did not come to the same end as Dr. Aufrecht's, but it struck me that there was much similarity in the histories of the two cases, and I have therefor taken the liberty of this lengthy quotation.

SYPHILIS OF THE LUNG.*

ELSWORTH SMITH, JR., M. D.

ST. LOUIS, MO.

Professor of Clinical Medicine, Medical Department of Washington University; Physician St Louis Mullanphy and St. Louis Skin and Cancer Hospitals.

THE case so cleverly presented by Dr. Fischel is certainly of the greatest interest for through the diagnosis, which appears to be as clearly established as is possible without post mortem verification it is placed among a very unusual class of diseases.

Syphilis of the lung is certainly one of the rarest of affections, as shown, for instance, by the following summary of cases in the work of Samuel West, M.A., M.D., of St. Bartholomew's Hospital, on Diseases of the Organs of Respiration, volume 2, page 838, where "Haslund (1) records, that of 6000 syphilitic patient admitted into the hospital at Copenhagen during a period of seven years, two cases only were diagnosed as suffering from pulmonary syphilis during life.

"The post-mortem record of the same period show, that out of 105 autopies of children with congenital syphilis, lung syphilis was found in four cases only; and that out of eighteen autopsies of adults acquired syphilis (eight males and ten females), lung syphilis was found in three (one male and two females). In only one of all these seven cases was the condition diagnosed during life.

"Heller (2) though states that of syphilitic children, 50 per cent show interstitial pneumonia, and more than half of these have pneumonia alba, while of non-syphilitic children only 20 per cent show lung affection of any kind. It is only in still-born children that the most marked forms of pneumonia alba are found.

"After a careful analysis of 87 cases Hiller (3) concludes that with a more persistent and careful examination for the tubercle bacillus, it is quite likely that syphilitic disease of the lung will ultimately disappear from literature.

"K. Fowlers states that there are only twelve instances of syphilitic disease of the lung in adults in the museums of all the London hospitals together. In most of these, though the question of tuberculosis was carefully considered, the absence of bacilli does not appear to have been proved."

Lues of the lung is among the tertiary manifestations of the disease, and may appear any time between the fifth and fifteenth year after infection, and even later.

As to the pathological lesions present West enumerates three, which he considers may be referred to this disease, namely:

1st. Pneumonia alba.

2d. Gumma.

3d. Fibroid induration.

E. Aufrecht, in Nothnagel's Encyclopedia, gives three varieties in the acquired form, namely:

1st. Gumma.

2d. Changes in connective tissue—a fibrosis.

3d. Parenchymatous changes producing chronic parenchymatous or catarrhal pneumonia.

*Opening of discussion of a case of tertiary syphilis simulating phthisis pulmonaris, reported by Dr Walter Fischel at a meeting of the City Hospital Medical Society, at the City Hospital, March 1st, 1906.

(1) Hosp. Tid., 3 R., viii, Nos. 15 and 16, 1890.

(2) Deutsch. A.f., kl. Med. xlii, 1887. Abstract Virch. Jbt. 1890, ii, 631.

(3) Virch. Jbt. 1884, ii, 543.

All authorities, I believe, agree, that the so-called syphilitic phthisis is now an obsolete term, as there is no progressively destructive lesion of the lung in syphilis, though there may, at times, be a cavity formation from the breaking down of a gummatous deposit, but the destructive process does not spread beyond the focus.

The favorite seat of the syphilitic lesion is, first, the middle lobe of the right lung, and then the lower lobe of either the right or left lung.

The above points in morbid anatomy are of interest, especially from the standpoint of diagnosis in that they tell us that syphilis, in attacking the lung, tends in the vast majority of cases, to produce an infiltration going on often to consolidation and fibrosis, which lesion is situated, in the vast majority of cases, in the middle lobe of the right lung.

The diagnosis, though of pulmonary syphilis is, as a rule, not altogther satisfactory, as it rests, largely, on negative evidence. Absolute verification of the diagnosis can only be made in the autopsy room, though, of course, several cases have been correctly appreciated during life. Practically the disease, in the vast majority of cases, must be differentiated from pulmonary tuberculosis. The clinical diagnosis of the affection very largely depends on

1st. The establishment of the undoubted presence of a syphilitic infection, and especially of lesions in other parts of the body.

2d. The absence of the tuberculin reaction or, on repeated examinations, of tubercle bacilli in the sputum.

3d. Evidence of an infiltration or consolidation of lung tissue, especially situated in the sites of predilection, heretofore alluded to.

4th. Effect of anti-syphilitic treatment.

All the other symptoms and signs may be identical in the two affections, except the evidence of a progressive destruction of lung tissue.

We should also always remember that the two diseases may co-exist.

From the standpoint of treatment the great importance of making a correct differential diagnosis between syphilis and tuberculosis of the lung is made especially apparent by the following cases from Schnitzler (4):

"His first case was that of a woman, thirty-two years of age, who six years after infection was attacked by gummata and ucleration of the larynx, and at the same time suffered from a pneumonia of the middle pulmonary lobe, which was completely cured by the administration of large doses of potassium iodid. Two years later the patient was again treated for ozoena and infiltration of both lower lobes and of the middle lobe. The pulmonary affection was again cured by the use of iodid of iron."

"The second case was that of a man, twenty-five years of age, who five years after infection, was treated for ulcers in the soft palate, gummata on the epiglottis, ulcers over the right arytenoid cartilage as well as on the vocal cords, and in whom at the right base posteriorly bronchial respiration was present, furthermore over the entire lung rough indistinct breathing with coarse and fine crepitant rales. After the use of potassium iodid —at first 2 gm. (30 grains), later 5 gm. (75 grains) a day—all symptoms of disease disappeared; after several weeks' treatment not a trace of syphilitic infiltration could be detected by means of the most minute physical examination.

"The third case was that of a female laborer, who complained of hoarseness, cough, and severe dyspnea. The percussion notes were slightly shortened over both apices posteriorly as well as anteriorly, the respiratory sounds were rough and indistinct, covered by a loud laryngo-tracheal stenotic sound; extensive dulness could be demonstrated over the inferior angle of the left scapula, where bronchial respiration and sometimes crepitant rales could be heard. The diagnosis "tuberculosis of the lungs," made on the strength of these findings, was not discarded until laryngoscopic examination showed ulceration of the epiglottis and of the vocal cords as well as a deep ulcer with ragged edges and floor covered with purulent exudate over the left arytenoid cartilage, and it was accordingly ascertained that syphilitic infection had taken place six years before. Seven choking spells led to the suspicion of the presence of laryngeal stenosis. After five weeks' treatment (inunction cure) the larynx was almost normal. The ulcers on the vocal cords, on the arytenoid cartilage, and on the epiglottis were cured and left only scarcely perceptible traces. The voice was loud and strong, although still a little hoarse. The infiltration of the lungs had disappeared except a slight dulness in the apices; the cough was gone, and the dyspnea, the removal of which by tracheotomy had already been decided upon, existed only in the memory of the patient."

And to these I should like to add the following:

F. S., aged 42 years; American; living apart from wife; waiter by occupation; entered our service at the St. Louis Mullanphy Hospital, June 25, 1903, giving the following history:

(4) Nothnagel's Encyclopedia, volume on Diseases of the Lung, page 654.

An uncle may have had tuberculosis. Patient denies absolutely any venereal affection; had used alcohol to excess. Had never had any reason to believe that he was the subject of a pulmonary trouble until March, 1902, when after exposure on a rainy day, he was three days later, when about to go to his work, taken with a severe pulmonary hemorrhage. He stated, a cupful of blood was raised. This bleeding was repeated one and one-half hours later. He then went to the City Hospital, and during his stay of seventeen days, he claimed to have had thirty hemorrhages.

On the 17th of the following May he entered the Mullanphy under the care of our predecessor, and from that date to the time of his becoming our patient, it was learned that he had had repeated hemorrhages, many of which were severe. He also lost greatly in weight and strength. All during this time he was thought to have pulmonary tuberculosis, and was treated accordingly, which resulted also in some improvement, as he gradually became able to leave his bed and be up and about the ward for a short while at a time, but he was still (June 25, 1903) very thin and feeble. Careful physical examination at that time showed evidence of infiltration of right lower lobe posteriorly, and some subcrepitant rales in right infra-axillary and infra-mammary regions, also scar on fraenum of penis and a perforation of nasal septum. Examination of sputum showed no tubercle bacilli.

These findings naturally aroused suspicion of pulmonary syphilis, and accordingly he was placed on specific treatment June 28, 1903, which treatment was continued, on the intermittent plan until his discharge, September 9, 1903. During this period he had no more hemorrhages. His cough disappeared, and he gained in flesh and strength, so that at the time of leaving the hospital his general condition was very good.

A thorough physical examination, made August 21, 1903, showed that all evidence of pathological changes in his lungs had cleared up entirely.

During the time patient was under observation repeated careful examinations of the sputum were made by my associate, Dr. Fahlen, with always negative results.

Here then we have had a case that certainly behaved in every way like syhpilis of the lungs, but, of course, the diagnosis was not confirmed by autopsy.

I can also recall two other cases, the first, in which a man of six feet and weighing 200 pounds has had for several years all the evidences of a cavity, the size of a hen's egg, just below the angle of right scapula—lungs otherwise normal. He has never raised any sputum, focus apparently quiescent as regards general condition.

The second case is that of an infiltration with moist rales in left infra-scapular region, remaining portions of lung in an emphysematous condition, due to repeated attacks of bronchitis. This subject also keeps in good flesh and in fairly good health between his bronchial attacks.

Both of these men are about 45 years of age; and one of them admits a venereal history. In neither have tubercle bacilli been found in the sputum. The lesions in both, however, appear to be favorably influenced by the iodides, but have never completely cleared up. May not these also be obscure cases of pulmonary syphilis?

DISCUSSION.

Dr. H. W. Soper (813 N. 18th St.) stated that he could recall two cases that had developed tuberculosis while under treatment for syphilis. The first case developed the first evidences of tuberculosis about a year after the syphilitic infection. The patient seemed to be responding well to the treatment for syphilis, and had no lesions at the time. The tuberculosis was remarkably rapid and the patient succumbed in about one month's time. The second case developed it after about two years. He had kept his weight and general nutrition very good Results of the antisyphilitic treatment was not very favorable at the time. The tuberculosis ran a slow course. These cases, however, were not believed to be a fair sample of the kind that Dr. Smith wished discussed. These went to the bad very rapidly, the second being slower than the first.

Dr. M. W. Hoge (Linmar Building) believed that a case which he had had under treatment a few years ago would be of interest in this discussion. The patient was an emaciated, cachectic individual, who had never given any definite history of infection. He had treated her once following an attack of influenza, following which there was fever, coughing and bloody sputum. She would cough up sufficient blood to almost call it pulmonary hemorrhage. The condition ran a slow course, the fever diminished and finally subsided. There was no cavity formation that could be determined. She did not want a diagnosis made, and would call upon the doctor only when there was some serious trouble. Some months after that, she developed a nasal trouble which was referred to a nose and throat specialist. He recommended that an iodide be given in small doses, on account of the lung trouble, probably being tubercular. Her condition im-

proved very rapidly, and there was no injurious effect shown on the lung. The result was rather favorable. Subsequently when this patient came to the doctor in a run down condition, she was usually benefitted by a specific treatment. The speaker could not tell whether the lung trouble was tubercular or syphilitic. If it was syphilitic, it showed the benefit of the treatment. If it was tubercular, the trouble was not increased.

Dr. Albert E. Taussig suggested that in obscure cases like the one reported, it was often worth while to inject some of the sputum into the groin of a young guinea-pig. If the sputum contained tubercle bacilli, even in numbers so small as hardly to admit of detection by means of the stained spread, a general tuberculosis would develop in the inoculated animal. If on the other hand no such tuberculosis developed, this result would speak, so far as it went, for some other diagnosis. In the case reported, the possibility of a tuberculous condition was the confusing feature, and light might thus have been thrown upon the matter by animal experiment.

Dr. Fischel in closing the discussion, stated that the patient had had lesions fourteen years before and that his hair had come out. Special emphasis was laid upon the peculiar gait, and this, the doctor stated, could not be accounted for on any other ground. He could not be certain as to the absence of tubercle bacilli. All of the many tests were negative. The patient had improved wonderfully since the iodide potassium treatment commenced. The doses were increased up to 40 drops three times a day, and only stopped then because the results were good, and there was no good reason for increasing the dose. As to the guinea-pig test, the doctor wished that it could be tried in the City Hospital, but the facilities were not at hand.

FOURTEEN women physicians of Detroit recently organized a society whose membership is limited exclusively to women practitioners. It is designated the Women's Academy of Medicine, and is the third of its kind in the country, the others being located at New York City and Rochester, New York. Women physicians in Michigan who are members of their county society are eligible to membership in the new guild. The following officers were elected for the ensuing year: President, Dr. Lucy J. Utter; vice-presdent, Dr. Mary G. Haskins; secretary, Dr. Anna Starring; treasurer, Dr. Minta P. Kemp; councillors, Drs. Florence Huson, Louise Rosenthal-Thompson and Isabella Holdom.

THE MEDICAL FORTNIGHTLY

Issued Tenth and Twenty-Fifth of Every Month.

Under the Editorial Direction of

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EDITORIAL

The Meeting of the Illinois State Medical Society.

THE Springfield meeting of the Illinois State Medical Society, held May 15, 16 and 17, was the largest in attendance in the history of the society. Three factors contributed to making this a large and profitable meeting: first, the location, which is central and accessible, with ample hotel acommodations; second, the increased membership of the society, due to the extension of organization, every county now but one in the State being organized, and this factor is of inestimable importance alone, in the fulfilling of the aims and purposes of the society; third, but not least, the growing interest of physicians in the progress which medicine as a science is making by reason of more mutual interest being shown by physicians in each others work and the work of the profession at large. Fully seven hundred and fifty physicians were present during the Springfield meeting with a registered list of actual members present of over 500.

This number emphasizes the importance of having the society convene at central and accessible points, where hotel accommodations are sufficient to meet the demands of this growing society, and we hope that at not a far distant day it will be decided that Springfield will be chosen as the regular meeting place of this society, because of the above mentioned reasons. The program of the meeting was excellent throughout, perhaps too many papers were contributed, which fact hinders, somewhat the value of discussion and creates hurry and over-time sessions, in order to comply with the requirements of this society in having papers read, before permitting their publication in the transactions. The symposium feature gave interest and value to the

presentation of timely subjects, thus giving the opportunity for a full discussion of practical and valuable phases of the varied diseases selected for discussion. The society was honored by a very thorough and scientific address by Governor Chas. S. Deneen on some features of Criminology derived from personal observations during his term of service as prosecuting attorney of Cook county. We hope to present this address in full at a later date. The president of the society Dr. H.C. Mitchell, of Carbondale, delivered a very exhaustive, earnest, helpful and suggestive address in the opening meeting, covering many of the essential features of practice, showing the relationship of the profession to the public, following along the lines which Dr. McCormick has so zealously advocated in his soul-stirring addresses throughout the country. We congratulate Dr. Mitchell on the fulness of his address, and the true spirit of serve, which he exemplifies and so earnestly presented. It is from the living examples that ideals grow and from whom young men get their inspirations and for this reason we believe such addresses as that of President Mitchell should be published in various journals that the young men in medicine, especially, may build for themselves realities in practice, which will make them earnest, serviceable and true followers of the nobler motives of our profession.

The House of Delegates in its sessions passed a number of resolutions which will show to the world that professional dignity, true reform and earnestness of purpose is markedly in evidence in the Illinois State Medical Society. Among these are one urging a law requiring the publication of the formula on the bottle of proprietary medicines; one thanking Collier's and the Ladies Home Journal for their work in the proprietary medicine evil; one for the creation of law requiring inspection of the eye sight and hearing of the pupils in the public schools; one for State work in the care of cases of tuberculosis; one requesting members of the society not to make an examination for life insurance (old line companies) for less than five dollars. A number of other deserving measures were discussed.

The election of officers for the next year resulted as follows:

President—J. F. Percy, Galesburg.

First vice-president—H. A. Nickerson, Quincy.

Second vice-president—J. H. Stowell, Chicago.

Treasurer—E. J. Brown, Decatur.

Secretary—E. W. Weis, Ottawa.

Rockford was chosen as the place of meeting in 1907.

Dr. J. F. Percy, of Galesburg, Ill., the newly elected president of the society, is one of the wheel-horses of the society, and has been ever since his election to membership. A man truly great in his qualities of manhood, devotion to the spirit and letter of the profession and his professional acquirements. It is certainly a high commendation of the regard with which he is held in the society by the fact, that he was elected by acclamation and with no opposing candidate in the field.

We congratulate the Illinois State Medical Society in its selection of this lovable, good and earnest man as its president, and we congratulate Dr. Percy on his selection to this high office, the gift of his fellows, and we are sure he will make this year one of deserving honor to himself and the society. F.P.N.

The Meeting of the Missouri State Medical Association.

THE 1906 meeting of the Missouri State Medical Association made good all that had been predicted for it, it was a delightfully profitable occasion. Jefferson City proved a most satisfactory meeting place, true there was a lack of hotel accommodation, but the citizens of the capital city opened their homes and comfortable quarters were found by all and many more might have been cared for. The division of the scientific work of the association in two sections again emphasized the fitness of the selection of the meeting place, the legislative halls of the capitol serving most conveniently, and holding the integrity of the work as could not have been with the sections in different buildings.

The programs presented at both the surgical and medical sections were of pleasing excellence. A surprising feature was the strength of the attendance at the medical section, which was at all times considerably larger than at the surgical, and is a healthful indication. The uniform excellence of the program makes it impossible to select features of exceptional interest. The discussion of abortion, which was introduced by Dr. Lockwood, of Butler, showed the interest of the association in the present time of cleansing, it appears that the association is a unit in favor of an end to this evil.

The annual address on Medicine by Dr. W. G. Moore, of St. Louis, and that on Surgery by Dr. C. H. Wallace, of St. Joseph, were scholarly and in keeping with the day's spirit of progress.

The social functions were well arranged and not allowed to interfere with the real

purpose of the meeting. Never have we experienced so well developed a spirit of fraternity within the association as at this meeting, the three days were a continuous meeting with good fellows and real friends, and that in itself made the going worth while. The dinner with brother Mat. Hall at the penitentiary, the reception given by Gov. Folk, and the barbecue were generally enjoyed.

The attendance at this meeting was good, St. Louis was represented by some fifty members and a few friends who should be members.

The election of officers for the ensuing year resulted as follows: President, Dr. C. H. Wallace, St. Joseph; vice-presidents, Dr. F. W. Allen, Callao, Dr. W. G. Cowan, Sedalia, Dr. C. J. Orr, St. Louis, Dr. E. H.

DR. C. H. WALLACE,
President-elect Missouri State Medical Association.

Thrailkill, Kansas City, and Dr. H. L. Reid, Charleston. Dr. C. M. Nicholson was reelected secretary, and Dr. G. Franklin Welch, Salisbury, treasurer. The committee on scientific work was named to consist of Dr. C. M. Nicholson (chairman) and Dr. J. C. Morfit, both of St. Louis, with Dr. F. E. Murphy, of Kansas City; that on public health and legislation, of Dr. F. J. Lutz (chairman) and Dr. G. Homan, of St. Louis, and Dr. H. E. Pearse, of Kansas City. Councillors: 1st District, Dr. E. E. Parrish, Memphis; 3d, Dr. J. D. Brummall, Salisbury; 4th, Dr. C. R. Buren; 5th, Dr. E. H. Miller, Liberty; 6th, Dr. W. E. McKinley, Denver; 7th, Dr. W. T. Elam, St. Joseph; 8th, Dr. L. W. Dallas, Hunnewell; 9th, Dr. C. W. Reason; 14th, Dr. W. F. Kuhn, Farmington; 18th, Dr. G. Ettmueller, Jefferson City; 20th, Dr. C. T. Ryland, Lexington; and 22d, Dr. J. R. Buchanan. Dr. W. F. Kohn was appointed orator in Medicine, and Dr. Paul Tupper, of St. Louis, orator in Surgery, for the next annual meeting.

Delegate to the A. M. A., Dr. W. J. Frick, of Kansas City; alternate, Dr. O. B. Campbell, of St. Joseph. Jefferson City was selected as the next place of meeting. The registration was 348. It transpired later that Dr. Frick was not a member of the A. M. A., Dr. Campbell therefore went to Boston as delegate.

This deals liberally with St. Louis and gives strong men to represent us.

The association journal is to be hereafter more completely devoted to organization and unifying the association; it is not to be the organ of any county society, and will serve the best interests of each and all. Dr. E. J. Goodwin, of St. Louis, will be its managing editor, a choice which assures conservative and wise conduct for a valuable organ.

The association voted to make Jefferson City its meeting place in 1907. The profession and people who made this occasion so enjoyable for us may take the fact that we wish to repeat as an expression of our appreciation.

The Illinois State Medical Society Entertained by an Authors' Clinic on the Eye, Ear, Nose and Throat.

DURING the meeting of the Illinois State Medical Society held in Springfield, May 15, 16 and 17, a unique entertainment was given to those members interested in the eye, ear, nose and throat. It was called an authors' clinic, and lasted three days, commencing Tuesday morning at the David Prince Sanitarium; Wednesday morning at the St. John's Hospital, and later at the Springfield Hospital. The idea originated with an invitation extended to Dr. Otto Freer to demonstrate his operation of window resection for deflected septum, and grew into the conception of inviting other available authors.

The clinical material was assigned to the hospitals, and the individual operator was notified of the time and place of his demonstration. When possible, operations were conducted in adjoining rooms, and on two occasions, three operations were conducted simultaneously.

On Wednesday an automobile service was established between the hospitals and the place of meeting. All the physicians of

Springfield and the adjoining towns co-operated to make the experiment a success.

About forty-five operations were performed during the meeting.

Authors of operations who were invited were:

Dr. Otto Freer, Window Resection of Septum.

Dr. Frank Allport, Ptosis.

Dr. Casey Wood, Excision of the Tarsus for Intractable Trachoma.

Dr. B. L. Ballinger, Enucleation of Tonsil in its Capsule.

Dr. Chas. Robertson, Tonsil Excision.

Dr. F. C. Hotz, Entropion.

Dr. Wilder, Symblepharon.

Dr. Baird, Advancement of the Rectus.

Dr. E. Fletcher Ingals, Intranasal Method for Frontal Sinusitis.

Dr. Ostrum, Septum Deflection.

Dr. A. E. Prince, Strabismus and Nasal Obstruction.

Dr. A. E. Prince demonstrated his advancement operation, excision of the rectus for paralytic squint, and exercised a general management of the clinic.

The Etiology of Acute Rheumatism.

Dr. Lewis Fox Frissell declares that the idea that the disease known as rheumatic fever or acute articular rheumatism is of bacterial origin is no new one. After discussing this subject in some detail in the Medical Record, he concludes that as a result of a careful clinical analysis of the pathology and symptomatology of rheumatism one is forced to look beyond the common joint affection to gain a clear idea of such a protean disease attacking the joints oftenest, to be sure, but too frequently the skin, pleura and heart. Granted a point of entry, probably the tonsil, as the frequency of tonsillitus in rheumatism would suggest, the various conditions vaguely called rheumatic, as well as the out-and-out attack of acute articular rheumatism, seem best explained by considering the essential condition to be a blood infection. Assuming this hematogenous origin, the localization of the symptoms he says is readily accounted for by the bacterial embolus or local toxin action. In regard to the nature of the organism at fault he presents five possibilities: An infection caused by the ordinary streptococci or staphylococci with their virulence in some way decreased. Infection by a specific bacillus. A mixed infection with bacilli and cocci. An infection caused by one of a group closely allied organisms, probably diplo- or streptococci, which cause various grades of arthritic trouble. This last theory, perhaps, reconciles the view held by those who believe in the specific coccus with that of those who regard the attenuated pus coccus as the casual agent. This, Frissell believes, is strongly suggested by the results of his own investigations.

Tuberculosis Infection.

Dr. William Porter, St. Louis (Jour. A. M. A., May 26, 1906), discusses some of the phenomena of tuberculosis infection and makes a few therapeutic suggestions. The bacillus is the central point in most of the experiments and investigations concerning tuberculosis, and Porter says that though almost two decades of study have been devoted to this organism, he believes that we are only in the beginning of our lesson and that so far as specific antagonism is concerned we await the dawn. He describes in some detail the routes of invasion and states that at present the respiratory tract is considered by many observers the main channel, though he is convinced that many more pulmonary cases are directly infected through the lymphatic and blood channels than are recognized by the average physician. He also states that in nearly all cases of advanced pulmonary phthisis the faucial tonsils become inoculated and that in about 5 per cent of hypertrophied pharyngeal tonsils some form of primary tuberculosis will be found. He discusses the danger of autoinfection, and states that constipation with intermittent diarrhea is found in most cases of pulmonary tuberculosis. He deals briefly with the early signs of infection and refers to tuberculin and the X-ray as diagnostic aids. He states that the cases most difficult to control in his experience have been those in which the physical evidence was most marked in the upper dorsal region and calls attention to the fact that the extent of the local lesion is not always a criterion of the general condition of the patient. In regard to the relation of pleurisy to tuberculous pulmonary infection he says that no man has a right to speak dogmatically. He declares that he has seen cases of pleurisy with effusions that were not tuberculous and that never became tuberculous, but admits that these may have been exceptions. The majority of tuberculosis cases have pleuritic extension and infection.

Dr. D. L. Harris has been appointed city bacteriologist, and Dr. D. M. Shoemaker his assistant by Mayor Wells. These appointments are pleasing to the profession.

THE REVIEWER'S TABLE

Books, Reprints, and Instruments for this department, should be sent to the Editors, St. Louis.

THE EXAMINATION OF THE FUNCTION OF THE INTESTINES BY MEANS OF THE TEST-DIET. Its Application in Medical Practice and its Diagnostic and Therapeutic Value. By Prof. Dr. Adolf Schmidt. Physician-in-chief of the City Hospital Friedrichstadt in Dresden. Authorized translation from the latest German edition, by Charles D. Aaron, M. D., Professor of Diseases of the Stomach and Intestines in the Detroit Post-Graduate School of Medicine, etc. With a frontispiece plate in colors. Crown octavo, 91 pages, extra cloth. Philadelphia: F A. Davis Company, Publishers, 19 4-16 Cherry street. (Price, $1.00, net,)

In this day of painstaking study of disease, wherein laboratory methods have become of such great aids in diagnosis, this book will find a valuable place in the physician's library. It is written to teach the methods of examination applicable in the study of the functions of the intestines in every day practice, and thus to study the diseases of the intestines in a more comprehensive manner. The diseases of the intestines will be better understood by following the methods advocated by the author, and a decided step in advanced diagnosis and therapeutics taken, if physicians will follow the methods of the author.

THE PHYSICAL EXAMINATION OF INFANTS AND YOUNG CHILDREN. Theodore Wendell Kilmer, M. D., New York. Illustrated with 59 half-tone engravings. Philadelphia: F. A. Davis Company, 1906.

This book is one which should meet with much favor, as it is along the line of more comprehensive and detailed study of disease from the standpoint of physical examination, a subject, by the way, which author emphasizes is not fully considered in text-books on pediatrics. Again, the apt and full graphic method of presenting the subject gives great value to its practical usage, and leads to a systematic investigation of cases and a more detailed record of observations. This book teaches how to examine children, showing fully the fact that methods applicable to the adult are entirely different when applied to the child, making it necessary, therefore, to evolve a system of examination wholly and individually useful in the study of children and their diseases.

The author has accomplished his object with great credit to himself and his cause which he advocates. The publishers likewise have with great credit to themselves performed their part in the printing and excellent illustrations. We unhesitatingly commend the book as one of great value to the physician and student. F.P.N.

CASE TEACHING IN MEDICINE. A series of graduated exercises in the differential diagnosis, prognosis and treatment of actual cases of disease. By Richard C. Cabot, A.B., M.D., Instructor in Haward Medical School, etc., Boston. Boston: D. C. Heath & Co., 906.

Every teacher of medicine will recognize the value of this book at once, and every student and physician will appreciate the methods outlined in cases presented, as means toward the end of systematic case records and study leading to diagnosis and treatment. The author presents in regular order the physical signs of disease in the actual cases reported, and then he teaches how to draw deductions from what has been observed; how to think clearly, cogently and sensibly about the data gathered by physical examination.

This book is of special value to the student and is the exposition of the method of case teaching, which should be used by all clinical teachers. It presents facts actual met with in practice; it teaches order in obtaining facts and in their arrangement and to group isolated symptoms in "well-knit diagnoses." The busy physician will profit by a study of this book, and the young practitioner will find help in bringing order out of the chaos in which he will find himself when he meets actual cases in practice. F.P.N.

PROGRESSIVE MEDICINE. Volume VII, No. 4, December 1, 190 . Edited by Hobart Amory Hare, M. D., assisted by H. R. M. Landis, M D. Diseases of the Digestive Tract and Allied Organs; Anesthetics, Fractures, Dislocations, Amputations; Surgery of the Extremities and Orthopedics; Genito-Urinary Diseases; Diseases of the Kidney; Practical Therapeutic Referendum. Philadelphia: Lea Brothers & Company.

The contents of this volume are up to the standard of previous issues. The authors are J. D. Steele, W. T. Belfield, J C. Bloodgood, H. R. M. Landis, J. R. Bradford, who in a careful manner have gone over the literature of the year of their departments and presented that which of service to the phyiscian, as indicating advancement in the art and science of medicine and surgery.

We again commend this work to physicians as a necessity in order to keep in touch with progress and to have for ready reference when reviewing the best in literature on special subjects.

PROGRESSIVE MEDICINE. Volume VIII, No. 1, March, 19 6. Edited by Hobart Amory Hare, M. D., assisted by H. R. M. Landis, M. D. Philadelphia; Lea Brothers & Co.

This volume, No. 1, series of 1906, has for its contributors Dr. Charles H. Frazier, on the Surgery of the Head, Neck and Thorax; Dr. Robert B. Preble on the Infectious Diseases, including Acute Rheumatism, Croupous Pneumonia and Influenza; Dr. Floyd M. Crandall on the Diseases of Children; Dr. D. Braden Kyle on Rhinology and Laryngology; Dr. B. Alexander Randall on Otology.

The authors are recognized specialists in their several fields of work, and hence, their selection of the best out of the voluminous literature of the year, is that which is practical and serviceable to the physician in

general practice. Herein lies the value of Progressive Medicine, and which makes it a desirable work for the physician's library.

F.P.N.

INTERNATIONAL CLINICS. Vol III. Fifteenth Series, 1905. Philadelphia and London: J. B. Lippincott Company, 1905.

This quarterly of clinical lectures and especially prepared articles on medicine and surgery and the specialties, contributed by leading members of the profession throughout the world, and edited by A. O. J. Kelly, A. M., M.D., with a staff of collaborators, continues to grow in favor with the profession. This is largely due to the growth of clinical methods of teaching and a desire to study actual cases.

The presentation of clinical cases with discussion of their special features and the comparative studies of the literature gives a broad working basis for physicians and students.

This quarterly therefore in each issue approaches the value of a post-graduate clinical school in that each contributed article is carefully prepared and edited, and therefore, embraces all that is new and valuable on the subject under discussion. This present volume includes among other valuable contributions, one by George C. Johnston on The Therapeutic Uses of the Roentgen Rays or Radio-therapy; one by Henry Huchard, of Paris, on The Musculo-Tonic and Diuretic Action of Formic Acid and the Formites; one on Renal Insufficiency by Prof. Teissier of Lyons, France; one on Mucous Colic or Membranous Colitis, by Alexander McPhedran, of Toronto, Canada; one on Addison's Disease, by Edward F. Walls, of Chicago; one on Fractures of the Patella, by J. S. Wright, of Brooklyn, New York; one on Acute Anterior Poliomyelitis, by Sanger Brown, of Chicago, and Notes on Hay Fever and Asthma, by Charles H. Knight of New York.

INTERNATIONAL CLINICS. Vol. IV. Fifteenth Series, 1906.

This volume contains twenty-five well prepared contributions by such well known writers and teachers as Wm. S. Gottheil of New York, on The Treatment of Psoriasis; J. N. Hall, of Denver, on Empyema; Sir Dyce Duckworth on the Later Stages of Cirrhosis of the Liver; Charles F. Craig on the Malta Fever; John B. Deaver on Surgical Diseases of the Stomach; Edward M. Corner on Post-operative Surgical Neurasthenia; J. F. Birnie on Cysts of the Lesser Peritoneal Cavity; Thos. A. Ashby on Study of Ectopic Pregnancy; Reynold W. Wilcox, the Medical Treatment of the Menopause, and others.

F.P.N.

THERE are 228,234 registered doctors in the civilized world, according to statistics compiled in Paris. Of these, 162,333 are in Europe. Great Britain has more doctors than any other country in the world.

"THE American Hero of Kimberley," the subject of a sketch by T. J. Gordon Gardiner in the June Century, was George F. Labram, of Detroit. Although a citizen of the United States and a non-combatant, Mr. Labram holds a unique, position in the military history of great Britain. His services during the siege of Kimberley received the thanks of the British Government and were publicly referred to by Lord Roberts as not only among the most momentous in the South African campaign, but in their way unparalleled in modern warfare. Under the most adverse conditions, Mr. Labram helped besieged Kimberley to water, food and light, to telephone service, cannon and ammunition. He was killed by a "good-night" shell, in his own room, just at the end of the siege. This story of American enterprise and resource in strange and dramatic surroundings makes inspiring reading.

DON'T NEGLECT CONSUMPTION.—"It is news, in a way, to know that the Great White Plague is enormously more curable when it is taken in its very earliest stages than when it is allowed to run on a little while," says Eugene Wood, in his article "The Campaign Against Consumption," in the June Everybody's. "Don't lose time about it. When you don't come right back to par after having had pneumonia, or the grippe, or an extra hard cold; when you feel lassitude after any kind of lung trouble (and the best men are coming to look at pleurisy as something a good deal more serious than a mere stitch in the side; they are pretty sure it a tuberculous affection); when your afternoon temperature, taken at different hours, four, five, six and eight o'clock, is higher than it ought to be, don't imagine that you will save time by waiting. You will be a long time dead. Worse than that, you will be a long time dying. Consumption is a reasonably comfortably death, but an expensive one, since you hang on for so long without being able to earn anything. Find out if you have the least little touch of it. Then drop everything, except the business of getting well. You for the outdoor life, twenty-four hours out of the twenty-four! You for eggs and milk to the limit of your digestive capacity! You for rest, and the careless mind, and gentle exercise under medical supervision. (Easy to say, isn't it?)"

REPORTS ON PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

OBSTETRICS AND GYNECOLOGY

W. H. VOGT, M. D.

The Physiologic and Legal Status of the Fetus in Utero.—(W. H. Sanders, Jour. A. M. A., Feb. 24, 1906.)—If birth means the act of coming into life, as the dictionaries tell us, then unquestionably the baby came into life at the beginning of conception, and at the end of nine months simply changed its domicile. The author thinks we should abolish the term conception, which is liable to be more or less misleading, and substitute for it the more scientific and correct term, birth. 1. It would be essentially and scientifically correct to locate birth where and when it actually occurs, in spite of the fact that several months would usually elapse before it could be known that a birth had certainly taken place. 2. It would place a pregnancy, from the first day of its probable occurrence to its termination, or the high legal and moral grounds it deserves to occupy. 3. It would dignify the position of the fetus in utero, and would establish beyond all doubt or confusion the right of the fetus to the same protection, moral and legal, as is accorded to human beings who have completed the period of the uterine existences. 4. It would unify the terms, fluxion, abortion, and miscarriage, under the one term, premature delivery; then, two expressions, premature delivery and delivery at full term, would cover the entire subject. 5. It would enable lawmakers to enact clear and definite laws, jurists and juries could administer without doubt or confusion. 6. It would have a strong tendency to promote virtue and to prevent crime, and to build up in every community a positive demand for the protection of human life at its tenderest and most helpless period; it would tend to educate the people on a subject in reference to which they stand in great need of education, and would thereby save the lives of many innocent and undelivered babes. He submits the following proposition: 1. The conjunction of male and female germs constitute, from a scientific standpoint, birth. 2. The term conception should be abolished and that of birth substituted therefore. 3. In dealing with all stages of pregnancy, even the earliest, physicians should realize the extreme gravity of the condition, and should never condemn to death a fetus, however young, without the maturest consideration, and without calling to their aid the highest professional authority within reach; in a word, without carrying the case to the nearest and wisest medical supreme court accessible. 4. The principles herein contended for should be impressed on the members of the profession, taught to medical students and promulgated widely among the people. 5. Medical men should interest themselves to see that the statutes of their respective state are ample for the protection of the fetus in utero.

The Surgical Treatment of Retrodisplacements of the Uterus.—(J. W. Bovee, American Jour. of Obstetrics, Feb., 1906.)—In addition to the ligamentous supports of the uterus the following conditions are important, according to the author: 1. The angle at which the uterus lies with reference to the vagina. 2. The potentiality of the vaginal canal as opposed to the idea of an actual space beneath the uterus. 3. The action of the strong perineal muscles and fascia in maintaining the supporting strength of the vagina, and converting an actual canal into a valvular slit in the structures. 4. A postulate balance between intra-abdominal pressure, and that of the external atmosphere. He comes to the following conclusions: 1. That the complications rather than the uterine displacement furnish the cause for surgical interference. 2. All operations for the correction of uterine displacements should be based upon the pathological and anatomical abnormalities of the uterus and adjacent structures. 3. Any operation that changes one dislocation of the uterus into another is illogical, and hence unsurgical. 4. Most of the cases of retroversion which require special operations are best treated by appropriate operations upon the round and uterosacral ligaments.

The Treatment of Puerperal Eclampsia.—(E. G. Zinke, Amer. Jour. of Obstetrics, Feb , 1906).—The object of the treatment is (1) to control and abbreviate the duration of the seizures; (2) to protect the patient from injury during the attack; (3) to remove the cause. To control the seizures inhalations of chloroform, injections of veratrum viride and morphine, chloral per rectum and venesection are advised. The withdrawal of cerebrospinal fluid he believes is dangerous and a doubtful procedure. The uterus should be emptied as promptly as possible, deep cervical or vaginal Cesarean section being the operations usually made use of. Shock, excessive hemorrhage and prolonged operations should be avoided.

Dangers of Ventrofixation.—(A. Colmann, Zentralblatt fuer Gynaekologie, No.6, 1906.)

—A case is cited in which a very difficult delivery followed a ventrofixation. The posterior lip of the cervix lay above the sacral promontory and could not be reached even with the whole forearm in the vagina. The pregnant uterus had grown at the expense of the posterior wall. When we consider the large number of cases reported where difficult labor followed ventrofixation it becomes a question whether we are justified in performing this operation.

Immediate Examination of Uterine Mucosa and Myomatous Nodules after Hysterectomy to Exclude Malignant Disease.—(Thomas S. Cullen, Jour. A. M. A., March 10, 1906.)—In going over the large number of myoma cases that have been operated on at Johns Hopkins Hospital, the author finds a surprisingly large number of instances in which myomata were associated with carcinoma either of the cervix or the body, and a relatively frequent picture of sarcomata developing in myomatous tumors He advises the opening of the uterus immediately on its removal as a routine procedure to see if by any chance carcinoma of the body exists, and also a careful examination of the myomatous nodules. He reports a very interesting case demonstrating how valuable this procedure would have been had it been followed out. The uterus in this particular case showed nothing unusual the mucosa of the uterine cavity was everywhere intact and apparently normal. Later on an examination was made in the laboratory, where a section was made through the tumor and some degenerative changes noted. Two years later at a second operation a sarcoma springing from the cervical stump was found. Cullen believes these tumors should all be examined carefully before the cervical stump is closed, and if malignancy is found the cervix should also be removed. The reasons for not doing a complete hysterectomy in all cases are given as follows: The supravaginal operation is the easier one; it leaves a better support to the pelvic floor, there is less danger of tying off the ureters, and as the blood supply of the bladder is little interfered with, there is less likelihood of a postoperative cystitis.

Concerning Obstetrical Dilatation of the Cervix.—(Professor Dührsen, Berlin. Translated by Ludwig Simon, Chicago, Surgery, Gynecology and Obstetrics, March, 1906.)—In this paper the use of the Bossi dilator is generally condemned. He believes Leopold's praised clinical successes nothing extraordinay since in total of 24 viable children, 9 (37½%) died as a result of the Bossi method. Leopold gives the maternal mortality as 22.6%, in which the Bossi method was used, while in Dührsen's record of women confined by obsolete methods without the Bossi dilator the percentage was 23.75%. Leopold says that Dührsen has no right to criticise this method since he has never tried it, he also insinuates that Dührsen fears to use the instrument. The author, on the other hand, claims it is not the fear, but the impracticability of the method which keeps him from using it, and this has led him to use methods that are not burdened with all the drawbacks and dangers which are connected with the Bossi method. The methods made use of by Dührsen are: 1. Deep cervical incisions in cases of effaced cervix. 2. Vaginal Cesarean section in cases of ineffaced and rigid cervix. 3. Metreurysis with automatic traction in cases of ineffaced but dilatable cervix. Vaginal Cesarean section is reserved for specialists, the other two can be carried out by the general practitioner. Vaginal Cesarean section and Gigli's pubiotomy will not only take the place of Bossi's method, but also that of induced premature labor, craniotomy to the living child, symphisiotomy, and the classical Cesarean section. In general Dührsen warns against the use of the instrument, or that recommended by Knapp, he says it is decidedly wrong to say of an eclamptic patient that she died of eclampsia and not from the lacerations produced by the Bossi method. They die of the combination of a severe illness and the injuries produced.

THERAPEUTICS.

W. T. HIRSCHI, M.D.

Is it Possible to Prevent Salicylic Nephritis by Administering an Alkali?—S. Moeller, Die Therapie der Gegenwart, April, 1906.)—Various clinicians have observed cylindruria and albuminuria in patients receiving salicylic acid or its derivatives, and this has led to the term salicylic nephritis. Renal irritation is more easily produced in females and in old people, than in males, and during the prime of life. Active diaphoresis during the time of administering salicylates minimizes renal irritation. The writer also observed that if the urine was made alkaline by means of sodium bicarbonate while administering salicylates, less albumins and casts are apt to occur. It is possible that the casts are quickly disorganized in an alkaline urine, and if they were present, they may have been overlooked. This subject must be more thoroughly investigated before a definite conclusion is reached.

The Pharmacologic Action of Digitalis, Squills and Strophanthus on the Heart.—(J.

S. Hayes, The Biochemical Journal, Vol. 1, No. 2.)—The cardiotonic effect of this group of drugs depends on glucosides, whose quantity and quality is variable, and it is advisable to triturate them according to the physiologic effect. The writer experimented with tinctures (British Pharmacopeia) and observed that the strophanthus tincture is usually more active in cardiac affections, but as it is at the same time the most dangerous, it must be used very carefully. Strophanthus is most readily absorbed and causes less gastric disturbances than either of the others. In the conjunctiva digitalis and squills primarily act as an irritant, and later as an anesthetic. Strophanthus acts as an anesthetic, and before the introduction of cocaine, it was used for this purpose. All three drugs reduce the frequency of the heart's action, strophanthus again being the most active. Digitalis and squills cause a contraction of the coronary vessels, strophanthus has little effect on them. Squills has a more constant cardiostimulating effect than either of the others, and indirectly is a valuable diuretic.

The Present View of Cancer Research.—(H. Apolant (Ehrlich laboratory), Die Therapie der Gegenwart, No. 4, 1906).—Numerous experimenters attempted to prove that a cancer is a parasitic disease, but the microscope and efforts of infecting others have not cleared up their views. Efforts to produce immunity by means of cytotoxins also have been unsuccessful. Transplantations of carcinomatous tumors from one mouse to another have been successful, but that is a metastatic affection. Ehrlich believes that a cancer cell should be looked upon in the same light as a bacterium, if one expects to discover the etiology. Transplantation of cancer from mice to rats reduces its malignancy and it is again increased by replanting on a mouse. This is very similar to bacterial experiments. Ehrlich believes animals of one species possess an unknown substance which is essential for the development of a cancer, but animals of another species do not possess this, consequently a tumor transplanted from mice to rats develop only as long as this substance which has been transplanted with the tumor is present, and then gradually degenerates. Transplantation of a cancer in a mouse which is already afflicted with carcinoma is usually unsuccessful and Ehrlich attributes this to the fact that the original tumor consumes all of the essential substance so the transplanted tumor must become disorganized. Some animals possess active immunity, and others can be rendered immune by repeated transplantations of malignant tumors. An animal which is immune to carcinoma very frequently is also immune to sarcoma, and this does not differ even if the immunity is active or passive, or natural.

The Treatment of Obstinate Cases of Sciatica with Perineural Infiltration.—Umber, The Therapie der Gegenwart, No. 4, 1906.)—The injection if made with a needle at least 10 cm. long at the site of the exit of the sciatic nerve through the sciatic foramen. The patient experiences a sudden severe pain, the moment the needle touches the nerve, after which the medicine is gradually injected. He uses a .1% eucaine solution in .8% sodium chloride, of which from 70-100 ccm. may be used. Most patients felt great relief after the first injection, some even felt entirely well. Several patients had a slight temporary elevation of temperature, and others a temporary peroneus paresis. The writer has observed just as good results by using normal saline solutions in place of eucaine solution, which, however, also causes slight elevation of temperature, but is preferable to eucaine, owing to the idosyncrasy which many patients have for eucaine. The therapeutic effect of these injections is very likely mechanical, but permanent in many, and should always be instituted when other well established internal remedies fail.

The Aristol Therapy of Hay Fever.—Fink (Therapie der Gegenwart, No. 4, 1906) discusses the etiology of hay fever, and of the most common factors the direct toxin irritation and reflex irritation the latter is the most frequent. He believes the source of irritation in many cases is in the antrum, and he uses aristol with good success. A cannula is inserted into the orifice of the antrum and the aristol is introduced through the tube. He has also treated cases of asthma with this method and has obtained good results. In most patients one to three treatments were sufficient, while others required more. In some patients it is very difficult to locate the orifice of the antrum, but patience will usually help to find it.

OTOLOGY.

ALBERT F. KOETTER, M. D.

Surgical Interference in Tuberculosis of the Meninges and the Brain.—Duret (Muenchener Med. Wochenschrift.)—1. Acute diffuse tubercular meningitis. Some authors try to effect a cure by opening the vault of the cranium and allowing air to enter, similar to tubercular peritonitis, others reducing the brain pressure by withdrawal of cerebrospinal fluid by means of lumbar puncture. The

trepanning of the vault of the cranium and the draining of the subarachnoid spaces through the fossa Sylvia and the injection of medicinal remedies will no doubt have better results in traumatic meningitis. 2. Localized tubercular meningitis up to the present time, but seldom interfered with by operative measures. 3. Tuberculoma.—In children they are often multiple, and therefore not amenable for operation, in adults in whom they simulate symptoms of brain tumor, they are most often solitary, and should be removed as soon as possible. The cases successfully operated upon refer to all tuberculomas of the cerebral hemispheres, especially the motor centers. The cerebellar operations nearly always caused death.

Diagnostic and Therapeutic Value of the Lumbar Puncture.—(Quincke, Deutsche Med. Wochenschrift.)—This work touches those points which are of interest to the otologist without relating much that is new. Author lays stress on the importance of measuring the pressure, whose normal he gives as 125 mm. water, especially in serous meningitis. The latter disease of otogenic origin he declares though toxic diffusion, comparable to the tissue edema in the neighborhood of a suppurative focus. Author always makes the puncture in the horizontal side posture and follows it by twenty-four hours rest in bed. High pressure always demands great care. Sudden sinking allows a diagnosis of incomplete communication between spinal and cranial cavity. In this case the procedure should be interrupted, or the withdrawal be done very slowly.

Discussion as to Headache, Neuralgia and Other Distant Actions in Affections of the Teeth.—Urban Pritchard (British Med. Jour.) thinks that affections of the ear superinduced by diseases of the teeth are not so frequent as was formerly thought. The teething in children may cause an otitis media acuta with perforation of membrane and suppuration, very likely through the medium of a catarrhal inflation in naso-pharyngeal space, later on through lowering of the powers of resistance and repair of tissue. Eruption and caries of teeth may cause earache, furthermore swelling of the alveolar region may extend to mastoid process. Improvement of the hearing after removal of a carious tooth he ascribes to an improvement of the general condition. Septic disease of the teeth is known as a cause for suppuration of the accessory cavities of the nose, pharyngitis and angina. J. S. Russell emphasizes the fact that empyema of the antrum may cause pain that is often mistaken for neuralgia of the teeth. J. H. Mummery enumerates the places that show swelling in diseases of the teeth; area fronto-nasolis in disease of upper incisors; area naso-labialis in disease of upper canines; area temporalis in disease of second upper bicuspids; area hyoidea with simultaneous swelling of the lobe of the ear and the external canal in disease of first and second lower molars. He has observed a case of deafness relieved and cured by extraction of an upper wisdom tooth which erupted with difficulty. H. A. J. Fairbank believes that an otitis media occurring during dentition may be due to existing adenoid vegetation. He has observed a case where pain over mastoid was relieved by removal of a carious lower molar.

Stricture of the Eustachian Tube.—(W. Sohier Bryant, Annals of Otology).—Of a series of one hundred post-mortems at the Harvard Medical School the author did not find a single case of organic stricture of the tube except in suppurative processes. He concludes therefore, that organic stricture of the isthmus are very rare, and that practically only functional strictures should be considered. In chronic strictures we may find a passive congestion or edema, sometimes combined with slight paralysis of the tubal muscles and adhesions, therefore circulatory and mechanical strictures. Predisposing causes are gout, syphilis, disturbance of circulation, hypertrophies, adhesions and scars in the naso-pharyngeal space, rhino-pharyngitis. The treatment consists in the application of adrenalin in the tube and silver nitrate in the nasopharynx, besides an inflation and bougie.

Making a Chromic Acid Bead.—Sacher (Monatschrift fuer Ohrenheilkunde) recommends instead of the prevailing method the following simple manner of preparing the chromic acid bead. Several chromic acid crystals are dropped into a porcelain dish which rests on a tripod over an alcohol lamp. As soon as a few crystals melt the flame is extinguished, he dips the probe, made of silver and threaded, like a screw, into the solution several times until the bead is of the required size. This method has the advantage that the chromic acid bead may be prepared by the assistant.

Some New Local Anesthetics.—(Stoavin, Alypin and Novakain.)—Braun (Deutsche Med. Wochenschrift) examined and judged these new anesthetics from the following standpoints: 1. An anesthetic in comparison to its local anesthetizing potency, must be less toxic than cocain. The absolute toxicity measured by the percentage of the solution is not decisive. 2. The remedy must not damage the tissue locally, or leave dis-

turbing hyperemia, inflammation, infiltration or necrosis. 3. The remedy should be soluble in water, consistent in solution and easily sterilized. 4. The vessel contracting qualities of the suprarenal preparations must not be disturbed by the remedy. 5. In application on surface of mucous membrane the remedy must penetrate rapidly. Stovain seems practicable only for medullary anesthesia for if used in other methods, viz., injection, like alypin, it causes considerable irritation. As to the glowing reports of Seifert in the use of alypin, 10% solution, on mucous membranes Braun cannot speak from his own experience. Novakain seems to be the most satisfactory in every respect. It is more easily sterilized and is less toxic than cocain.

A Characteristic Symptom of Suppurative Thrombosis of the Superior Longitudinal Sinus.—(Gradenigo, Archiv fuer Ohrenheilkunde).—Farmer's wife, 31 years old, two healthy children, aborted twice; suffered from an acute suppurative otitis media with subperiosteal abscess. After the latter evacuated a fistula remained behind the ear. Short time after a fluctuating swelling appeared in the parietal region somewhat to the right of the median line, painful to the touch, also continuous pressing pain. Swelling was the size of half a nut, round and covered with integument, which showed no changes. Potassium iodide without result. Edema spread to forehead and lids. Fistula behind the ear closed. First operation: Crucial incision over the swelling, granulations on galea aponeurosis removed. During the after treatment pus was discharged from a small opening of the galea, probe disclosed roughened bone. Symptoms the same. Second operation: Piece of bone size of a half dollar exposed, discolored, removed. Dura in circumference of discolored bone, granulating. Dura fistula leads to the bloodless longitudinal sinus. Sinus filled by blood red thrombus, which on account of absence of pyemic symptoms was not removed Outer wall of sinus excised. Death five days later after lumbar puncture twice revealed cloudy fluid, symptoms of meningitis. Section: Longitudinal sinus in anterior portion free to the proximity of lesion, from here to the confl. sinuum was filled with suppurative thrombus extending to the right lateral sinus and part of the left. Sinus petrosi and jugular free. Eruption of isolated cells of mastoid process into the right sigmoid sinus. Diffuse leptomeningitis. Gradenigo believes that swelling in the parietal region should be characteristic of a thrombosis in superior longitudinal sinus. To the swelling, simple dilatation of the veins, hematoma or abscess, may be associated enlargement of the veins (Lermoyez's symptom) edema of the hairy scalp, forehead and lids. Further observations must explain why these symptoms have only been observed in a few cases.

GENITO-URINARY.

T. A. HOPKINS, M. D.

Joulie's Method of Ascertaining the Acidity of the Urine.—The editor of the New York Medical Journal in a recent issue gives the detail of this very important urine test, a test well worthy of our readers consideration: The urine is derived from the blood, and the explanation of how the one, an acid fluid could be derived by a process of filtration from the other, an alkaline fluid, has always presented a problem to the curious. The problem in point of fact has been an imaginary one because the acid urine is derived from a fluid which though leaving a blue stain on litmus paper is nevertheless chemically acid. The acidity of the urine is due to the presence of acid phosphates, and these are also present in the blood and though chemically acid salts, capable of taking up another atom of base, nevertheless give a blue reaction with litmus. The alkalinity of the blood is consequently due to the presence of bicarbonates, which are acid salts, so that it is evident that, whatever may be the reaction with litmus the blood is an acid fluid both chemically and practically. It is known that the phosphates of calcium and magnesium are so sensitive to any trace of alkalinity that they readily become precipitated, even in a medium which is still faintly acid. Furthermore, it is known that these earthy phosphates are very frequently present in the urine, especially during digestion. Now, in order to enter the urine in a state of solution they must of necessity have been in a state of solution in the blood, and inasmuch as they will not remain in solution in an alkaline medium, there is no escape from the conclusion that the blood from which they have been derived is acid and not alkaline. So much being established, one is justified in concluding that the degree of the acidity of the urine is a measure of the degree of the acidity of the blood. This acidity in both cases is due to acid phosphates, salts of H_3PO_4, that is, salts which like NaH_2PO_4, $CaHPO_4$, and $MgHPO_4$, are still capable of taking up one or more atoms of base. It is, therefore, obvious that the real urinary acidity is phosphoric acidity. The specific grav-

ity of the urine to be examined is taken at 15 deg. C. If the temperature differs from this figure, a correction is made according to a printed table. The total acidity, that is to say, the acidity from all sources, is now calculated, and is expressed in terms of the amount present in a hundred parts of the excess of the urine over that of distilled water at the same temperature. In this way the errors inseparable from the varying amount of water in different samples of the same person's urine are altogether avoided. The degree of dilution of a specimen, always hitherto a matter of difficulty may thus be disregarded. Thus, if the specimen in question shows a specific gravity of 1.020, the excess (which is called E) is 20, because the density of the water at 15 deg. C. is known to be 1.000. The total acidity is calculated by means of precipitation with a standard solution of sucrate of calcium (10 grammes of powdered chalk and 20 of sugar to a liter of distilled water). The figure thus obtained is called A. Thus we have $\frac{A}{E} \times 100 = R\ A$ (i.e., the percentage of total acidity in E). The normal standard for R A as worked out by Joulie is between 4 and 5—as nearly as possible 4.5. But, as we have already seen, this total acidity is from our point of view a matter of secondary importance. What we wish to ascertain is the amount which the acid phosphates contribute to this acidity; in other words, how much of this is serviceable phosphoric acidity, and how much, of it is organic, fortuitous, and undesirable. The next step is therefore to determine the amount of phosphoric acid, combined and uncombined, which is present in the given specimen. This is calculated by the classical method with nitrate of uranium and ferrocyanide of potassium, and is expressed in terms of the amount present in 100 parts of the excess of the urinary density over that of water at the same temperature. If we call the total phosphatic contents thus obtained P, we have the following formula $\frac{P}{E} \times 100 = R\ P$ (i.e., the ratio of the phosphates; in other words, the percentage of total phosphatic contents in E). The normal standard for R P as estimated by Joulie is between 11 and 11.5, as nearly as possible 11.17. In order tc find what we are in search of, namely, the amount which the phosphates contributed to the total acidity, it is necessary to divide R P by R A, thus: $\frac{R\ P}{R\ A} = \frac{11.17}{4.5} =$ 2.45. This represents the normal percentage of active phosphoric acid, that is, the amount which is capable of neutralizing an equal atomic weight of base, in E, which is the excess of urinary density over that of water. When the readings show that both R A and R P are below the normal, the explanation is simple enough. It is that there is an insufficient quantity of phosphoric acid in the blood and the symptoms are therefore due, at least in part, to the deposition of earthy phosphates in certain organs and tissues, the treatment resolving itself into the administration of phosphoric acid in gradually increasing amounts. An examination according to Joulie's method will not only establish the fact of hyperacidity or subacidity, as the case may be, but will give us the degree of the deviation from the normal and at the same time inform us of the proper line of treatment.

Determination of Lead in the Urine.—A. Lederer, Chicago (Jour. A. M. A., May 26), remarks on the disadvantages of the methods usually employed in testing for lead in the urine, and describes the test which he uses and for which he claims special advantages in accuracy, quickness and simplicity. It consists in precipitating the lead, free from all organic matter, by means of potassium sulphate in sulphuric acid solution, washing down the insoluble sulphate thus precipitated with distilled water, and passing hydrogen sulphid gas through it. The slightest yellowish-brown discoloration proves that lead is present. A great advantage of this test, he says, is that even if bismuth is present, it will not affect it, nor will any other substance that is likely to be present. By comparison with artificial lead solutions containing 1 mg., 2 mg., 3 mg., etc., of lead, per liter, a simple quantitative colorimetric method can be established.

Mortality After Prostatectomy.—B. Tenney and H. M. Chase, Boston (Jour. A. M. A., May 12), have analyzed the mortality statistics of over a thousand cases of prostatectomy, with special reference to the mortality, counting as fatal cases all within six weeks of the operation and excluding such statistics as cover only a shorter period of observation, though they might give a more favorable result. The mortality by the perineal operation in their statistics is slightly less than that of the suprapubic method, and the difference is very much less in the statistics of their collection than in those collected by Proust, Watson and Escat. There is also a decidedly rising mortality from the sixth to the eighth decade, the percentages being, respectively, 5.8, 9.5 and 15, thus indicating the advantages of early operation. The sta-

tistics also show certain fatal periods; in the 73 deaths more occurred in the first forty-eight hours than in any other two days, 23 in all. In the seventh, eighth and ninth days there were 12 deaths; on the thirteenth, fourteenth and fifteenth there were 6 deaths, and from the twentieth to the twenty-second days, inclusive, 7 deaths. Two-thirds of all the deaths occurred during these fatal periods. The duration of life following the two operations is almost identical. The favorable statistics of certain operators are noted. Out of the 617 perineal operations, we find two men doing 211 operations and losing 2 cases within 12 days, as compared with 206 of the other operators with 22 deaths in the same period. Including the suprapubic operations, there is a total of 45 fatalities in 790 operations within the same period. These two men mentioned do not appear to have used the most rapid method or to have specially selected their cases. The presence of vesical calculus did not seem to have any favorable influence on the mortality, as claimed by Moullin, Richardson and others. The authors think that many of the fatalities must have been avoidable, and insist on the importance of due preparation of the patient, special care in the selection and use of the anesthetic, and greater attention to the after-care. A prostatectomy is not a completed piece of handiwork, like most clean laparotomies and dissecting operations, but needs constant attention for forty-eight hours especially, and later at intervals.

Dr. H. McC. Johnson has been appointed to the St. Loius Board of Health to succeed Dr. H. W. Bond, who is now Health Commissioner.

An Ambulance Adventure.—Some two years ago Mr. E. E. Carruthers, of Scranton, Pa., having been injured in East St. Louis, was removed in an ambulance. He alleged at the time that he had been robbed of a pocketbook containing $150. On May 10th the ambulance was undergoing repairs when on tearing way the lining, a pocketbook containing $150 and Mr. Carruthers's card was found therein. The amount was forwarded to him by check.

The State Penitentiary Hospital.—At a meeting of the State Board of Prison Inspectors, at Jefferson City, on May 9th, it was decided to push ahead with the enlargement and modernization of the old prison hospital, for which purpose $50,000 was appropriated by the last legislature. The warden expects to have the building completed by the end of the year.

Prof. William H. Welch, of Baltimore, has been elected a member of the Board of Trustees of the Carnegie Institution, in place of the late Secretary of State Hay.

A New Source of Alcohol.—A Madagascar plant, jutropha manihot, is the source of starch extensively used in the manufacture of glues. It also furnishes food for both man and beast, and promises to rank high as a source of alcohol.

Regeneration of Lost Parts.—T. H. Morgan, New York (Jour. A. M. A., May 5), reviews the facts and theories regarding the regeneration of lost parts in certain animals and the failure to do so in others. The question, he says, is possibly of some practical importance, for if we could determine why man does not replace a lost arm or leg, we might perhaps go further and discover how artificially to bring about this process. Regeneration appears to him as only a phase of the general phenomenon of growth, and if this is the case, why, he asks, does an animal that has ceased to grow begin to regenerate rapidly when a part has been removed If we turn the question around the other way and ask, why does an animal stop growing at a certain stage, we may attack the problem at closer quarters. It is evidently not because the cells have lost the power of growth; their power in this direction seems unlimited, nor can it, as he shows, be entirely attributed to an equilibrium between food supply and consumption. The question seems to be one of inhibition, and he suggests, as a possible explanation of the cessation of growth, a definite response to a condition of mutual pressure or tension of the cells on each other. When this is reached growth stops, and when we alter the tension by removing a part it begins again. The facts of regeneration of lost parts in the vertebrates are given and the reason why it fails in mammals and in man are discussed. Morgan does not think this can be due to greater complication of structure or to any process of natural selection. He thinks it more probably due to the fact that different tissues have very different rates of regeneration. In the higher mammals the failure to regenerate is observed in cases in which cartilage begins to change to bone, and he thinks the main trouble is in the slowness of the bones to regenerate in time with the other tissues. He says: "If the tissue in man still possess the power to regenerate, may we not hope in time so to adjust their rate of regeneration that the replacement of a lost limb may be produced? I can not but think that some day this may be accomplished."

THE MEDICAL FORTNIGHTLY

A Cosmopolitan Biweekly for the General Practitioner

The Medical Fortnightly is devoted to the progress of the Practice and Science of Medicine and Surgery. Its aim is to present topics of interest and importance to physicians, and to this end, in addition to a well-selected corps of Department Editors, it has secured correspondents in the leading medical centers of Europe and America. Contributions of a scientific nature, and original in character, solicited. News of Societies, and of interesting medical topics, cordially invited.

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MEDICAL MISCELLANY

THE establishment of a state tuberculosis sanatorium in Iowa has been facilitated by the passage of a bill in the legislature appropriating $50,000 for the purpose.

A BULLETIN issued by the Interstate Commerce Commission shows that during the months of July, August and September last 1053 were killed and 16,386 injured among passengers and employees of steam roads in the United States.

PRICE OF RADIUM.—Henri Farjas, of Paris, in his latest list of radium preparations, quotes the following prices: Pure radium bromide, one milligramme, $80; one centigramme, $800; one decigramme, $8,000; one gramme, $80,000. To this must be added the import duty of twenty-five per cent. At this rate the commercial value of one grain of radium in the United States would be more than $5,000.

IN response to a suggestion from the National Association for the Study and Prevention of Tuberculosis, President Roosevelt has appointed a committee to investigate the sanitary condition existing in the government offices and workshops, with a view to recommending measures for the prevention of tuberculosis. The members of the committee are: Surgeon-General Robert M. O'Reilly, of the U. S. Army; Surgeon-General P. M. Rixey, of the U. S. Navy; and Surgeon-General Walter Wyman, of the Public Health and Marine Hospital Service.

ST. LOUIS PHARMACISTS AND THE LIQUOR LICENSE.—Many local druggists have determined to give up the sale of alcohol and those medicines classed as intoxicating beverages by the internal revenue collector, with a view of fighting the $624.00 a year license demanded by the excise commissioner from those who sell intoxicating liquors. It is interesting to note that the St. Louis West End Grocers' Club has an opinion from Lieutenant-Governor Charles P. Johnson to the effect that this saloon license should not be demanded from grocers. His opinion in full is given in the Eli Grocer and General Merchant, of St. Louis, for April 14, page 5.

NATURE'S BEST TONIC.—Laughter is undoubtedly one of Nature's greatest tonics. It brings the disordered faculties and functions into harmony, it lubricates the mental bearings, and prevents the friction which monotonous, exacting business engenders. It is a divine gift bestowed upon us as a life preserver, a health promoter, a joy generator, a success maker. Life with the average man is too serious at best. Never lose an opportunity for relaxation from the stress and strain of your business or profession. Every draught of laughter, like an air-cushion, eases you over the jolts and the hard place on life's highway. Laughter is always healthy. It tends to bring every abnormal condition back to the normal. It is a panacea for heartaches, for life's bruises. It is a life prolonger.

A SYSTEM OF VENEREAL PROPHYLAXIS THAT IS PRODUCING RESULTS.—G. Shearman Peterkin (Seattle, Wash.) says the education of the individual in the law of sex is the only feasible means, at our present stage of evolution, of lessening or preventing venereal diseases. From sociologic, economic, ethic and physiologic laws, etc., scientific facts are taken as premises, and from these conclusions drawn to prove that this fact must be recognized. With these principles as a working basis, pamphlets—five in number—have been issued by a Committee on Prophylaxis of Venereal Diseases of the Washington State Medical Association. The pamphlets are appended in full, and Dr. Peterkin gives the reason for using them as a means of disseminating such knowledge and for presenting the amount and character of knowledge they contain. The position is taken that business principles of today can be ethically applied in leading man, who must and will make his own morality, to the next succeeding evolutionary stage of his morality.—American Medicine.

MEDICAL MEMORANDA.

For Sale.—First-class surgical chair and fine improved nebulizer. Both will be sold cheap if taken at once. Address "Removed," care Medical Fortnightly, St. Louis, Mo.

Entero-Colitis.—Dr. O. W. Cobb, Easthampton, Mass., reports case of an eight months' old boy who was said to be dying of cholera infantum. "I found the patient almost moribund and displaying all the symptoms of entero-colitis. I ordered high enemas of glyco-thymoline in 25 per cent solution and warm. Used four ounces at a time with a soft rubber catheter once every three hours. The child could retain nothing, was in frightful pain and passing constantly thin, foul smelling discharges tinged with blood. For nourishment I ordered several combinations to be administered, an ounce at a time, as a rectal clyster following the enemas of glyco thymoline. I know it is not good practice to give hypodermics to an infant, but this was a grave case. My predecessor had ordered gr. 1-64 morphine, gr. 1-960 atropin, sub. q. every four hours if needed, with strychnine 1-240 gr. if necessary. I continued this as the baby was often in intense pain and there seemed to be no other way The baby improved from the first, but so slowly that it was scarcely discernible to the parents, but the nurse and myself saw it. After three days the child could take some nourishment per oram. I then gave 2 m. of glyco-thymoline in one ounce of water every two hours before feeding. It began to have short periods of natural rest and the discharges were in every way improved. At the end of a week, Aug. 14th, the improvement was quite marked but we did not relax our vigilance. The enemas were continued fifteen days, once every three hours, then at less frequent intervals for a month, then once a day for six weeks. The recovery of the little patient was long and slow but uneventful. The mother and nurse were devoted and ably seconded my efforts. At this time the baby is a strong, rosy youngster. It gives me great pleasure to tell you of this case. The experience may be of value and it certainly proves to my satisfaction at least, the potential possibilities of glyco-thymoline in gastro-intestinal work."

The Modern Treatment of Nephritis.—If we will consider Renault's idea, that the kidney is not a filter, but a gland of secretion, as well as excretion, and that this secretion passes into the blood, where its action brings about such changes that the kidney is better able to eliminate the toxins, then will we get an idea of the action of nephritin, the unchanged primary elements of the cell of the cortex and the convoluted tubules of the kidneys. This idea has been worked out exhaustively, but in a crude way, for three years in the hospitals of France, where they have been making daily macerations of fresh kidneys and treating various cases of nephritis with remarkable results. For some time we have been trying to produce a product that could be used successfully by physicians in cases of nephritis, overcoming the nausea and repugnance, as well as the gastric irritation, which usually accompanies crude products, and also secure a product of a definite standard. so that the dose can be graduated according to the requirements of each individual case. Taking Renault's macerations as a standard, we make many experiments, the result showing that glycerine extracts were extremely weak, desiccated kidneys showed that the primary substances were injured by the heat and no favorable results obtained, solutions, extracted by normal saline solution, required alcohol to keep them, which is irritating, other extracts showed no value, and no active principles could be precipitated that would give the results as shown in France. Nephritin alone maintained a definite action throughout all these experiments, and if we still keep Renault's macerations as a standard, nephritin is found to be fifty times as potent, or in other words, ten tablets of nephritin equal the maceration of one pig's kidney. Nephritin is made from the fresh pig's kidney, uninjured by any preservatives, is perfectly stable and does not irritate the stomach; laboratory and clinical tests have confirmed the remarkable results by this method abroad. A case of albuminuria in a whisky drinker. Sp. gr. 1011 urea 0.5 per cent, albumin 1 gm. per liter, sediment showed hyaline casts in abundance. Given 4 tablets four times a day. On third day sp. gr. 1022, urea 2 per cent, albumin 0.75 gm. per liter. Careful examination of the sediment failed to show casts. He is showing rapid improvement without change of diet. The treatment of nephritin will, we think, bring a new era in the treatment of Bright's and other diseases of the kidney, while not a cure, where permanent changes have taken place in the histological structure of the cells, yet its aid in relieving the diseased kidney and helping the overburdened heart, will rightfully place it as a necessity in all cases of nephritis. The reports and conclusions, observed by many of the clinicians of France and printed in the most prominent medical journals of that country, are worthy of our attention. Page and Dardelin, in the Presse Medicale, Paris, report 18 cases of nephritis treated by giving a maceration of fresh pig kidneys. They say the results have been so remarkable that they do not hesitate to recommend the treatment. We would urge our readers to send for descriptive literature and samples of nephritin, and give same a careful trial. Reed & Carnrick, whose products are already so well known to the professioual world as to need no comment here, are the manufacturers.